SONY.

AUDIO ROUTING SWITCHER (12×12)

BVS-A1212
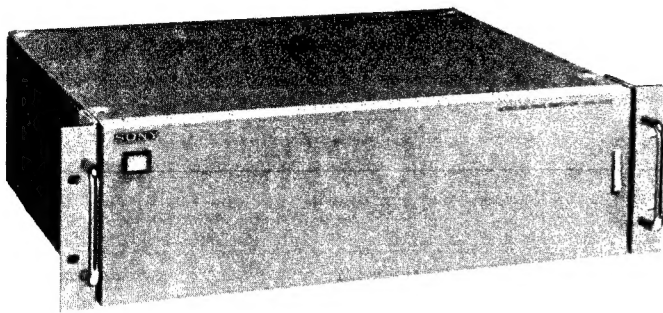
MAINTENANCE MANUAL
1st Edition (Revised 4)
Serial No. 20001 and Higher (J)
Serial No. 10001 and Higher (E)

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)
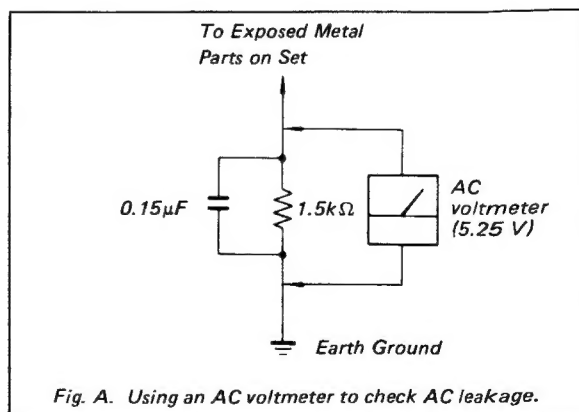
Fig. A. Using an AC voltmeter to check AC leakage.

目次
TABLE OF CONTENTS

1-1.　使用環境

- セット内の温度上昇を防止するために，設置する場所の
  空気の循環には充分注意して下さい。
- セットの動作環境温度は0°C～40°Cですのでセットを
  熱源のそばに設置しないで下さい。

1-2.　設置スペース

- セットの外形寸法は図の通りです。

1-3.　電源

- BVS-A1212の電源は，スイッチング電源（±15 V，+5 V）
  を使用しており，入力は AC 100～240 V±10％切り換え
  なしで対応します。
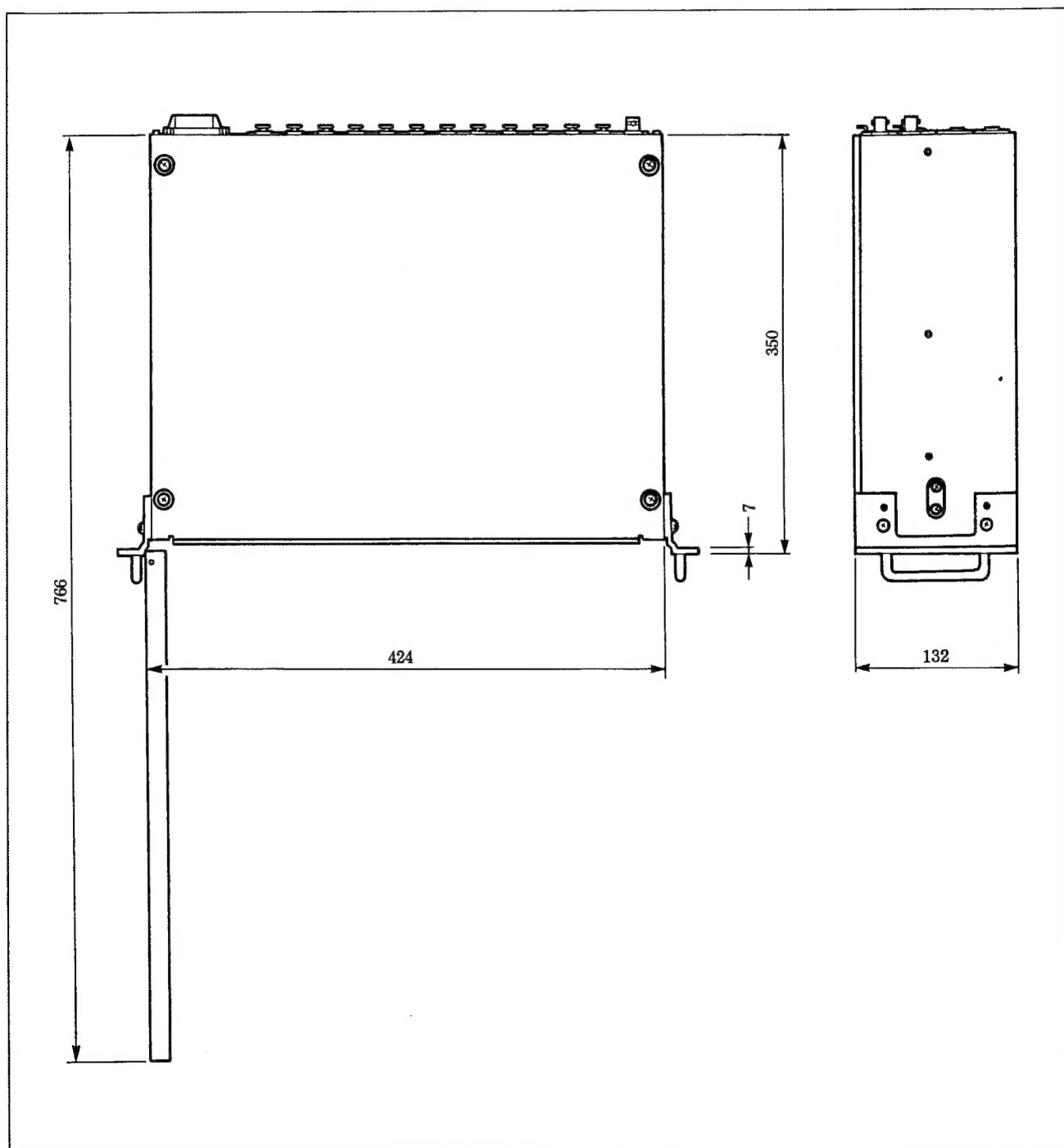
1−4. システムセレクトスイッチのセッティング

・セレクトスイッチの機能は下記の通りですので，各々の
システムに合わせて，また状況に応じて，使用して下さい。

1−4−1. ASW-17基板

・S1〜12; 600Ω終端抵抗 ON/OFF スイッチ
工場出荷時；すべて ON に設定されています。
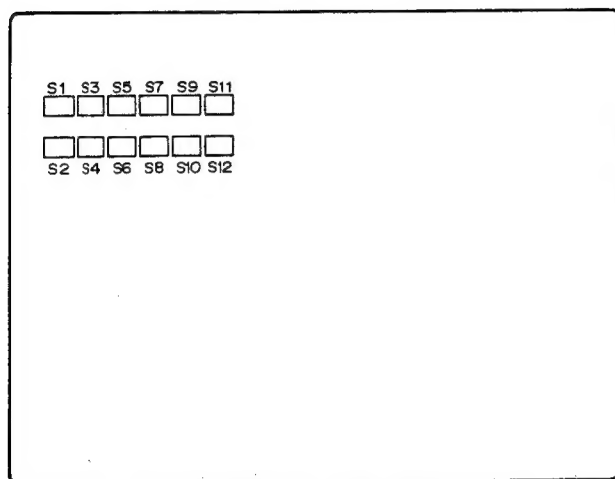
ASW-17基板（部品面）

1−4−2. CPU-68基板

・S1 は下記のように設定します。

No.	機　能
1	テストモードの選択
2	クロスポイントの強制的なイニシャライズ
3	
4	未使用
5	
6	
7	REMOTE 3 の TALLY OUT
8	REMOTE 1, 2 の RESPONSE

S1-1 設定

OPEN	テストモード
CLOSE	通常使用時

S1-2 設定

OPEN	クロスポイントの初期化を強制的に行う。
CLOSE	クロスポイントの初期化をしない。

S1-7 設定

OPEN	REMOTE 3 に TALLY を出さない。
CLOSE	REMOTE 3 に TALLY を出す。

S1-8 設定

OPEN	REMOTE 1, 2 に RESPONSE を返送しない。
CLOSE	REMOTE 1, 2 に RESPONSE を返送する。

・S2; S3 が '0' '1' の時に，BKS-R1210 でコントロール
する DESTINATION を設定します。

No.	BKS-R1210 の RED 側	BKS-R1210 の GREEN 側
0	MONITOR SOURCE SIDE	
1	DESTINATION 1	
2	DESTINATION 2	
3	DESTINATION 3	
4	DESTINATION 4	
5	DESTINATION 5	
6	DESTINATION 6	MONITOR DESTINATION SIDE
7	DESTINATION 7	
8	DESTINATION 8	
9	DESTINATION 9	
A	DESTINATION 10	
B	DESTINATION 11	
C	DESTINATION 12	
D	MONITOR DESTINATION SIDE	
E	DESTINATION 1〜12	
F	を一斉に切り換える。	

・S3; BKS-R1210 機能切り換えスイッチ

No.	機　能	
0	ONE BUS コントロールパネル	切り換え可能
1	ONE BUS コントロールパネル	TALLY OUT ONLY
2	X-Y コントロール	切り換え可能
3	X-Y コントロール	TALLY OUT ONLY

・S4; ユニットアドレスの選択
REMOTE 1, 2 において，制御する場合の本機のア
ドレス（UA2）を設定します。
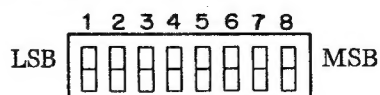
1つもしくは2つまで ON にすることができます。

・S11；リセットスイッチ

CPU-68基板工場出荷時の設定値

SW No.	設定値	
S1	1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8	CLOSE (OFF)
S2	0	
S3	0	
S4	4-1　OFF 4-2　OFF 4-3　ON 4-4　ON 4-5　OFF 4-6　OFF 4-7　OFF 4-8　OFF	
S5	ALL OFF	
S6	0	
S7	0	
S8	0	
S9	0	
JW1	OFF	
JW2	ENA	
JW3	SELF	

CPU-68基板（部品面）

1-4-3．　TR-56基板

・S1〜13：600Ω切り換えスイッチ
600，150，37.5Ωの切り換えを行います。

TR-56基板（部品面）

工場出荷時：全て600Ωに設定されています。
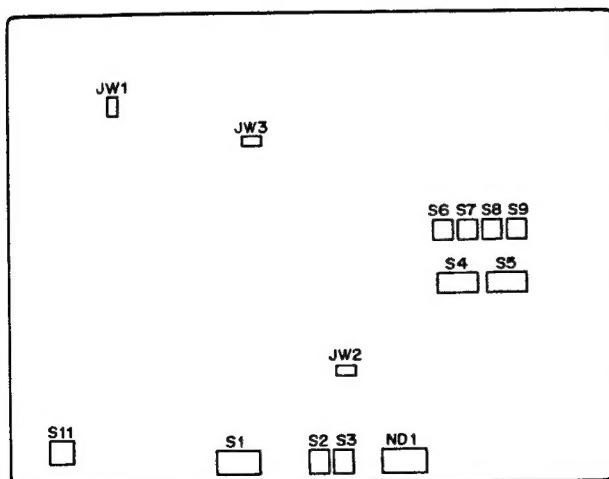
1−5. BKS-R1210 との接続

BKS-R1210 1台で BVS-V1212／A1212 が複数台接続可能です。

［接続方法］

★1: BKS-R1210 の付属 5 m ケーブル
★2: BVS-V1212／A1212 の付属ハーネス
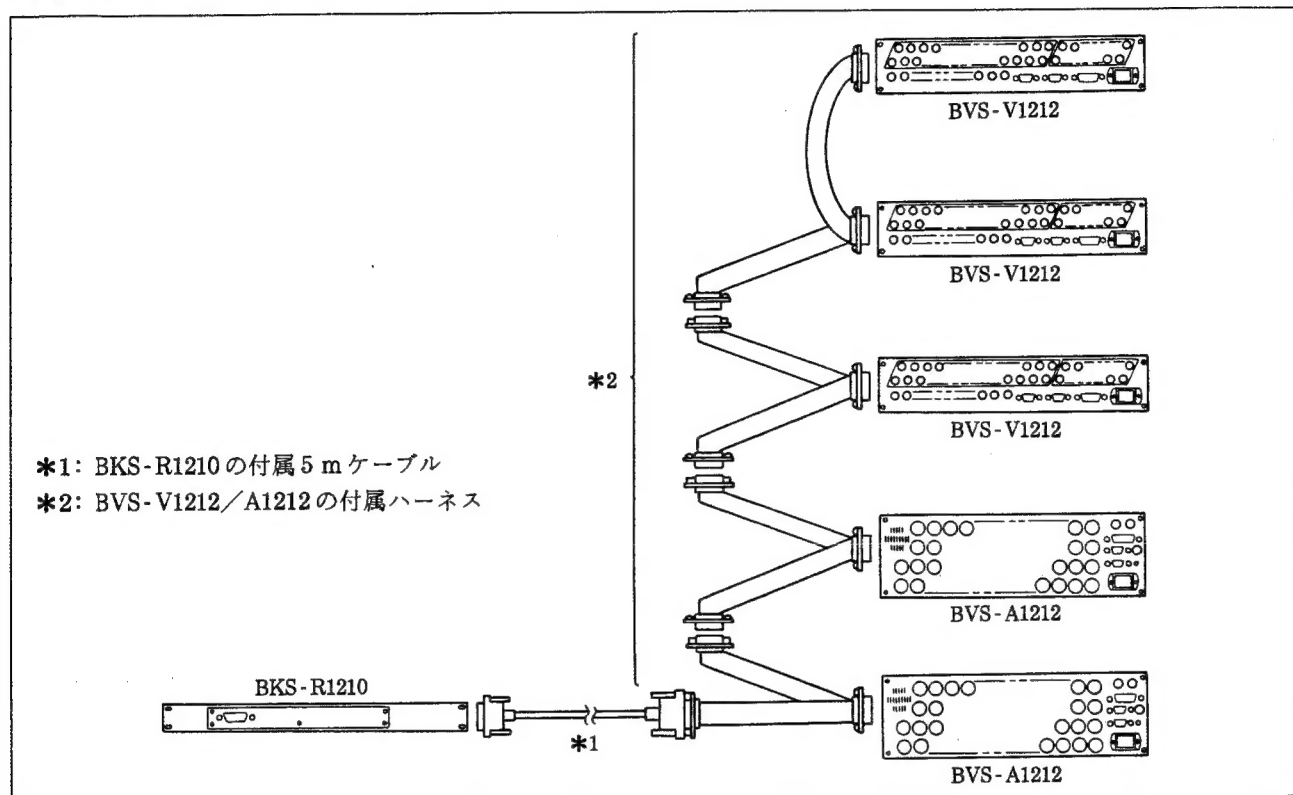
［接続後の設定］
(1) 接続されている BVS-V1212／A1212 の CPU-68 基板 S2, S3 は全て同じ設定にして下さい。
(2) 接続された中で, 1台のみ CPU-68 基板 S1-7 を CLOSE, 残りはすべて CPU-68 基板 S1-7 を OPEN
    にして下さい。

1−6. BKS-R1210 の取り付け

・BKS-R1210 のリモコンパネルの CN1 と BVS-A1212 のリアパネルの REMOTE 3 を BKS-R1210 に付
  属されているリモコンケーブルで接続します。
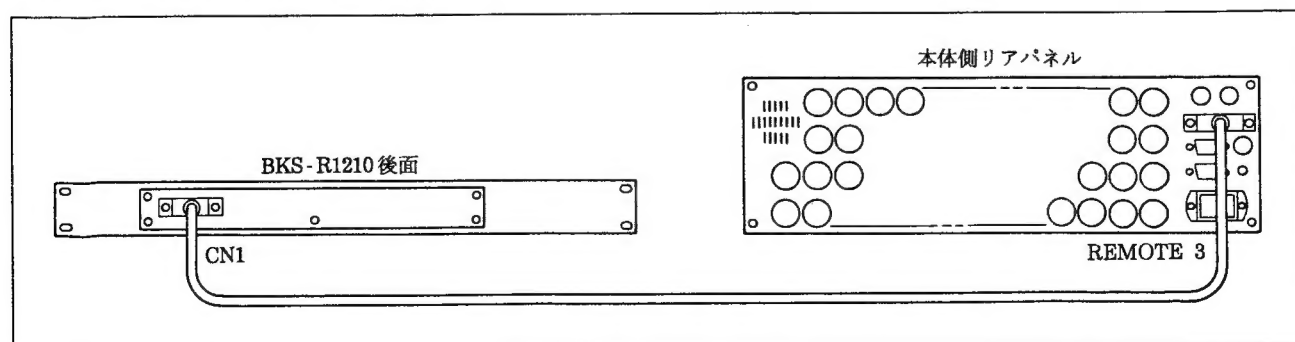
1-7. コネクターの入出力信号

コネクターパネルのコネクターの入出力信号は下記の通りです。

1-7-1. BVS-A1212

REMOTE 1, 2 (D-SUB 9 ピン FEMALE)
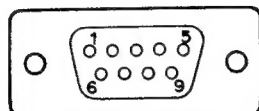
− EXT VIEW −

PIN No.	信号名	機　能
1	F.G.	FRAME GROUND
2	RS422 T−	TRANSMIT A
3	RS422 R+	RECEIVE B
4	RS422 RCOM	RECEIVE SIGNAL COMMON
5	DS9-5 SPARE	
6	RS422 TCOM	TRANSMIT SIGNAL COMMON
7	RS422 T+	TRANSMIT B
8	RS422 R−	RECEIVE A
9	F.G.	FRAME GROUND

REMOTE 3 (D-SUB 25 ピン FEMALE)

— EXT VIEW —

PIN No.	信号名	機 能
1		
2		
3	+5 V	+5 V; OUTPUT
4		
5	DST-A	
6	DST-B	DESTINATION SELECT BINARY DATA; OUTPUT
7	DST-C	
8	DST-D	
9	CH-C	SOURCE, DESTINATION SELECT; INPUT
10	DST ONLY	SELECT DESTINATION ONLY; INPUT
11	SRC ONLY	SELECT SOURCE ONLY; INPUT
12		
13	SRC-A	SOURCE SELECT BINARY DATA; OUTPUT
14		
15		
16		
17	+5 V	+5 V; OUTPUT
18	GND	
19	CH-1	
20	CH-D	SOURCE, DESTINATION SELECT; INPUT
21	CH-A	
22	CH-B	
23	SRC-D	
24	SRC-C	SOURCE SELECT BINARY DATA; OUTPUT
25	SRC-B	

1-7-2. BKS-R1210

D-SUB 25 ピン MALE

- EXT VIEW -

PIN No.	信号名	機　能
1		
2	A2 ONLY	GREEN BUTTOM; OUTPUT
3	+5 V IN	+5 V FOR GREEN TALLY
4		
5	A1-A	
6	A1-B	GREEN TALLY BINARY DATA; INPUT
7	A1-C	
8	A1-D	
9	CH-C	BUTTOM BINARY DATA; OUTPUT
10	A1 ONLY	GREEN BUTTOM; OUTPUT
11	V ONLY	RED BUTTOM; OUTPUT
12	KEY ON	KEY ON SIGNAL; OUTPUT
13	V-A	RED TALLY BINARY DATA; INPUT
14		
15		
16		
17	+5 V IN	+5 V FOR RED TALLY
18	GND	
19	CH-1	
20	CH-D	BUTTOM BINARY DATA; OUTPUT
21	CH-A	
22	CH-B	
23	V-D	
24	V-C	RED TALLY BINARY DATA; INPUT
25	V-B	

1-8. 接続コネクター

コネクターパネル部の コネクターの機能名称	接続するケーブル側のコネクター の部品番号と名称
REMOTE 1, 2	RCC-5G RCC-10G (リモコンケーブル 9P) RCC-50G
REMOTE 3	接続コード (BKS-R1210) 1-574-883-11

1-9. ラックマウントの方法

1-9-1. 19インチ標準ラックに組み込む場合

• BVS-A1212
<推奨品>
スライドレール： ACCURIDE社製, RACKMOUNT
　　　　　　　　SUDES MODEL C-203-22
　　　　　　　　SLIDE LENGTH 22 INCH　2本
ブラケット　　： ACCURIDE社製, #5516-2　4個

<用意するもの>
インナーメンバー取り付け用ネジ (+B4×6) 6本
板ナット (3穴) 8枚 (ソニー部品番号 3-651-812-01)
ブラケット固定用ネジ① (+B4×8)　8本
ブラケット固定用ネジ② (+B4×12) 12本
ラックマウント用ネジ　(+RK5×16) 4本
ラックマウント用飾りワッシャー　4個
　　(ソニー部品番号 2-297-913-01)

1. セット底面の脚4個を取り外します。
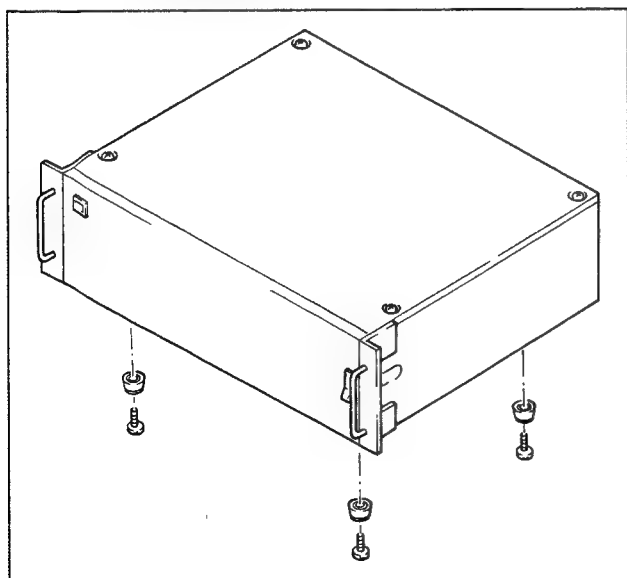
2. 用意したネジ (+B4×6) でスライドレールのインナー
メンバーを取り付けます。
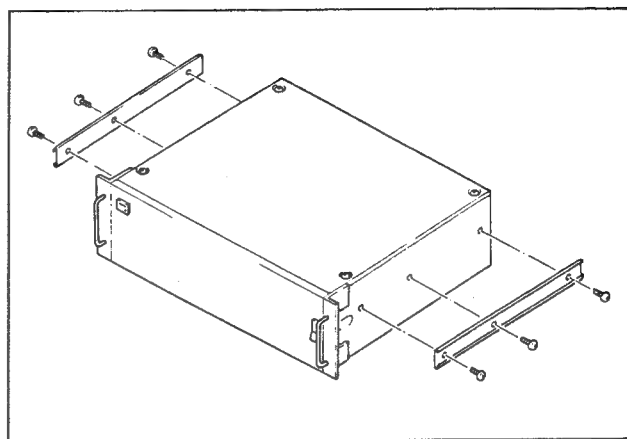
3. スライドレールのアウターメンバーとブラケットを4
枚の板ナット (3穴) を使用し8本のネジ (+B4×8)
で仮り止めします。

4. スライドレールのアウターメンバーのブラケットを板
ナットでラックに取り付け, スライドレールの先端か
らラック外側までの寸法がセット側のインナーメンバー
の位置と合う様に調整します。
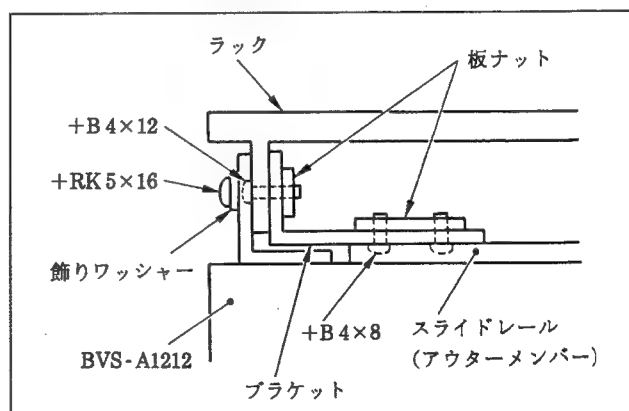
• BKS-R1210
<用意するもの>
ラックマウント用ネジ (+RK5×16) 4本
ラックマウント用飾りワッシャー　4個
　　(ソニー部品番号 2-297-913-01)

1. ラックマウント用ネジとワッシャーで取り付けます。

BVS-A1212をラックマウントしたときの最大移動距離は下記の通りです。

スライドレール
センターまでの寸法

ラックマウント時の
セットの高さ

単位: mm
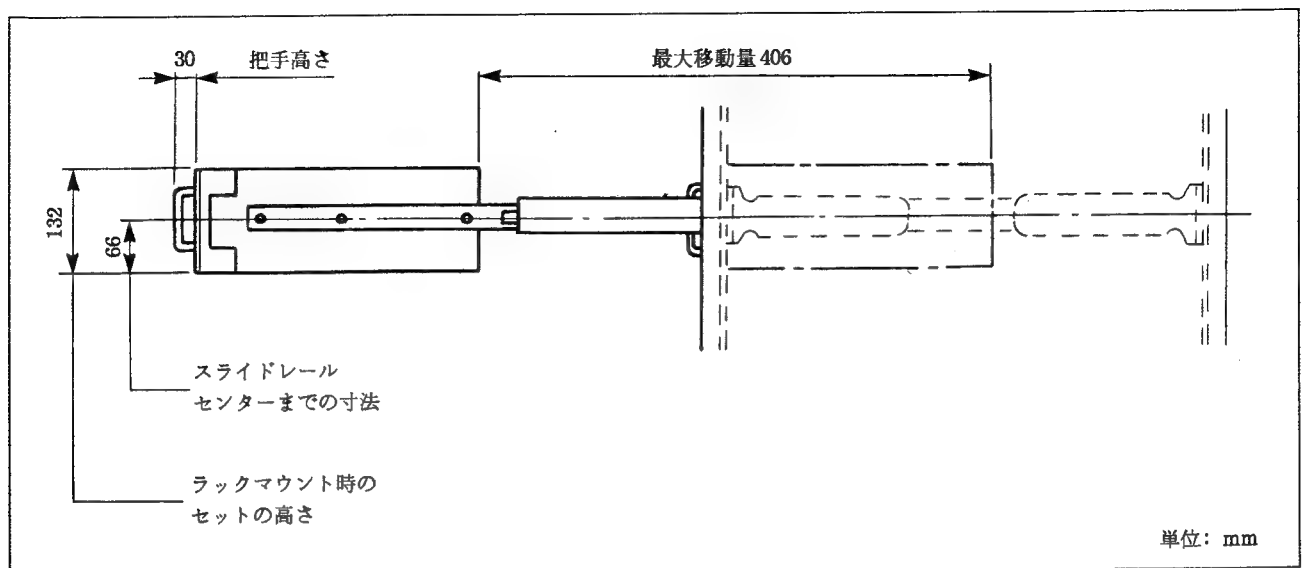
1-9-2. LMS (LIBRARY MANAGEMENT SYSTEM) に組み込む場合

コンソールに付属のスライドレール，ラックアングル，ブラケットを使用してください。

1. LMSのコンソールに付属しているラックアングルとブランクパネルを外し，ブランクパネルからラックアングルを外します。
2. セット底面の脚4個とラックアングルを取り外します。
3. 付属のネジ（＋B 4×10）でラックアングルを取り付けます。
4. コンソールに設置されているスライドレールからインナーメンバーを抜き取ります。
5. 付属のネジ（＋B 4×8）でスライドレールのインナーメンバーを取りつけます。

注) この際，上記の図の推奨位置ではなく，セット底面から74.2 mmの位置に取り付けて下さい。

1-10. 付属品アクセサリー

- 電源コード　　　　　　　　（1）
- オペレーションマニュアル（1）
- メンテナンスマニュアル　（1）
- プラグホルダー　　　　　（1）
- BNC 終端抵抗（75 Ω）　（1）
- ユニットハーネス（25P）　（1）

SECTION 1
INSTALLATION

1-1. OPERATING ENVIRONMENT

.Be very careful of the air circulation at he installation site to prevernt an increase in temperature within the unit.

.As teh operating temperature of the unit is 0°C to 40°C, do not install the unit close to a source of heat.

1-2. INSTALLATION SPACE

.The external dimensions of the unit are as shown in the figure.

1-3. POWER SOURCE

.A switching regulator(±15V, +5V)is used for the power source of the BVS-A1212; therefore, the unit can be used with a voltage of 100V to 240V ±10% without changing the supply voltage.
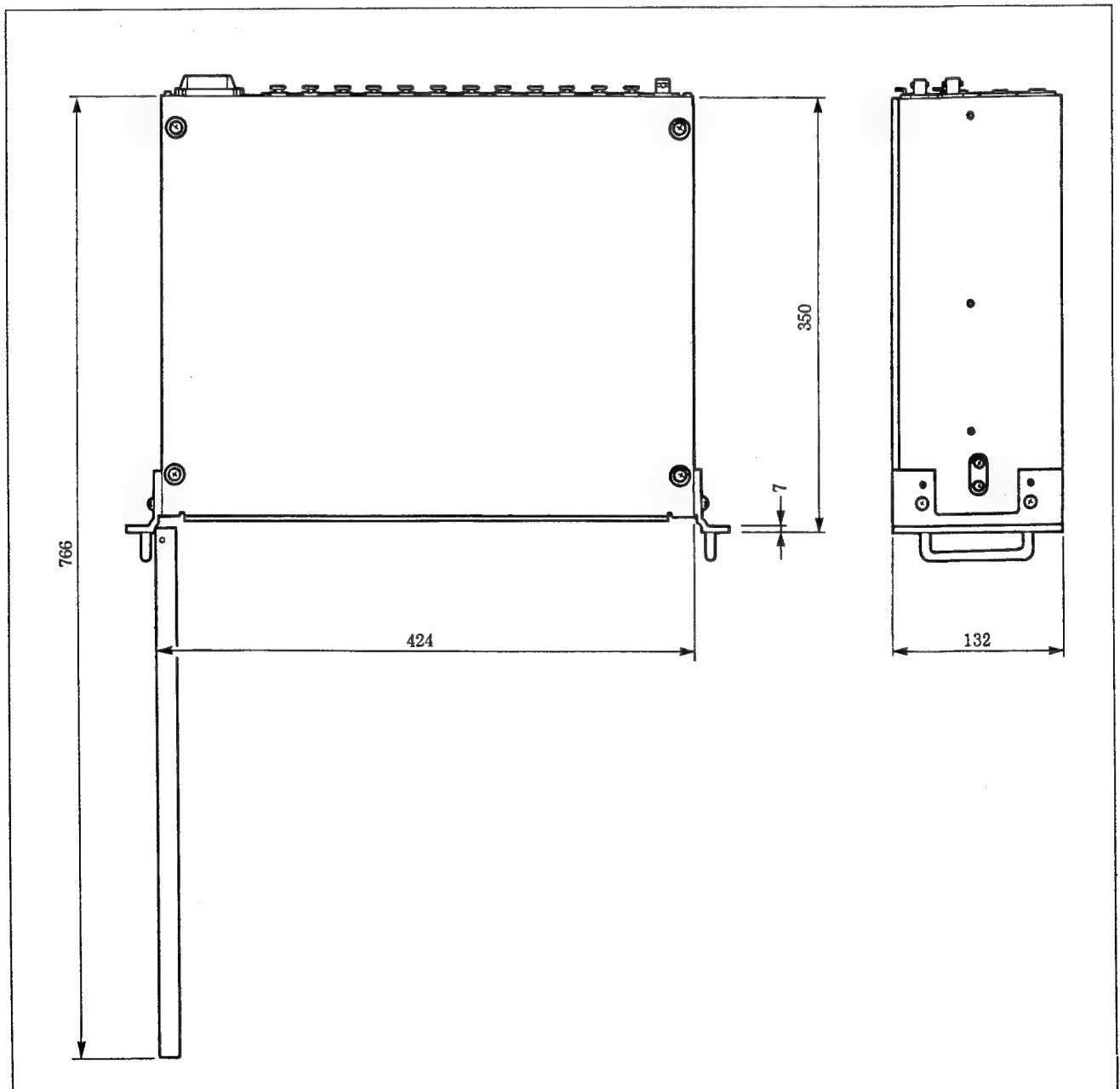
1-4. SYSTEM SELECT SWITCH SETTINGS

.The functions of the select switches are the following. Use them according to your system and your requirements.

1-4-1. ASW-17 Board

.SW1 through SW12; 600Ω terminate resistor ON/OFF switches.

Setting before shipment; all ON

S1 S3 S5 S7 S9 S11

S2 S4 S6 S8 S10 S12
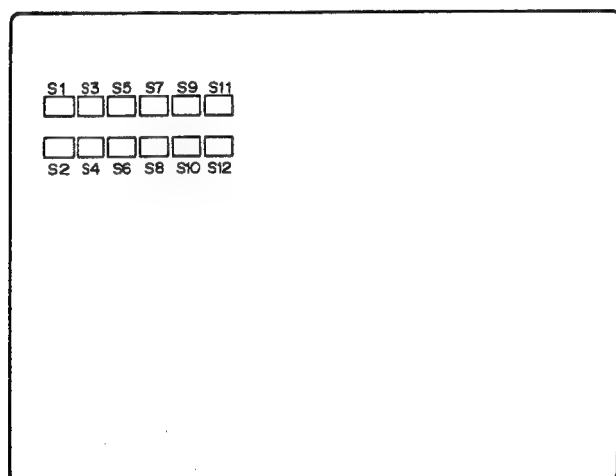
ASW-17 board (Component Side)

1-4-2. CPU-68 Borad

.Set to the SW1 in the table below.

No.	Function
1	Select of TEST MODE
2	Compulsory initialize of close point.
3	
4	unused
5	
6	
7	TALLY OUT of REMOTE 3
8	RESPONSE of REMOTE 1 and 2

Set to the SW1-1

OPEN	TEST MODE
CLOSE	Generally use

Set to the SW1-2

OPEN	Enable to perform initialize of close point compulsory.
CLOSE	Disable to perform initialize of close point.

Set to the SW1-7

OPEN	Disable to send TALLY in REMOTE 3.
CLOSE	Enable to send TALLY in REMOTE 3.

Set to the SW1-8

OPEN	Disable RESPONSE in REMOTE 1 and 2.
CLOSE	Enable to RESPONSE in REMOTE 1 and 2.

.SW2; When SW3 is set to '0' or '1', set to controled DESTINATION in the BKS-R1210.

No.	RED Side of BKS-R1210	GREEN Side of BKS-R1210
0	MONITOR SOURCE SIDE	
1	DESTINATION 1	
2	DESTINATION 2	
3	DESTINATION 3	
4	DESTINATION 4	
5	DESTINATION 5	MONITOR DESTINATION SIDE
6	DESTINATION 6	
7	DESTINATION 7	
8	DESTINATION 8	
9	DESTINATION 9	
A	DESTINATION 10	
B	DESTINATION 11	
C	DESTINATION 12	
D	MONITOR DESTINATION SIDE	
E	Change the destination	
F	from 1 to 12 all at once.	

.SW3; The switch changed the functions of the BKS-R1210

No.	Function	
0	ONE BUS CONTROL PANEL	Enable to change
1	ONE BUS CONTROL PANEL	TALLY OUT ONLY
2	X-Y CONTROL	Enable to change
3	X-Y CONTROL	TALLY OUT ONLY

.SW4; Select of unit address
    Set to the address (UA1), when con-
    troled BVS-A1212 in REMOTE 1 and 2.

        1 2 3 4 5 6 7 8

LSB   MSB
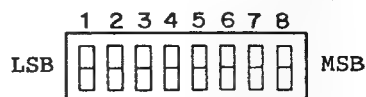
One or two switches are able to set to ON.

.SW11; RESET SWITCH
Setting before shipment of CPU-68 board.

SW No.	Position	
S1	1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8	CLOSE (OFF)
S2	0	
S3	0	
S4	4-1 OFF 4-2 OFF 4-3 ON 4-4 ON 4-5 OFF 4-6 OFF 4-7 OFF 4-8 OFF	
S5	ALL OFF	
S6	0	
S7	0	
S8	0	
S9	0	
JW1	OFF	
JW2	ENA	
JW3	SELF	
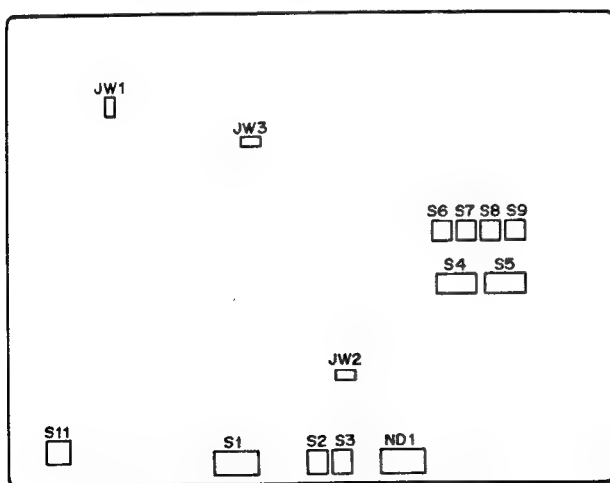
CPU-68 Board (Component Side)

1-4-3. TR-56 Board

.SW1 through SW13; the switches changed 600 Ω.

Perform to change of 600, 150, or 37.5 Ω.
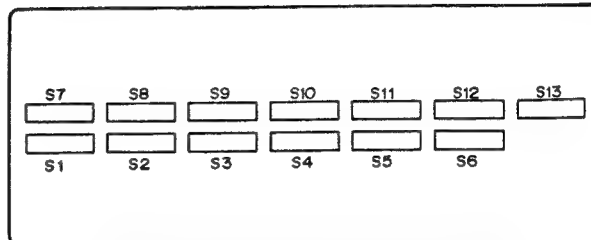
TR-56 Board (Component Side)

Setting before shipment; set to all 600 Ω.

1-5. CONNECTIONS WITH THE BKS-R1210

Two or more BVS-V1212 and BVS-A1212 units can be connected to a single BKS-R1210.

[Connection method]

*1: 5 meter cable supplied with BKS-R1210
*2: Harness supplied with BVS-V1212/A1212
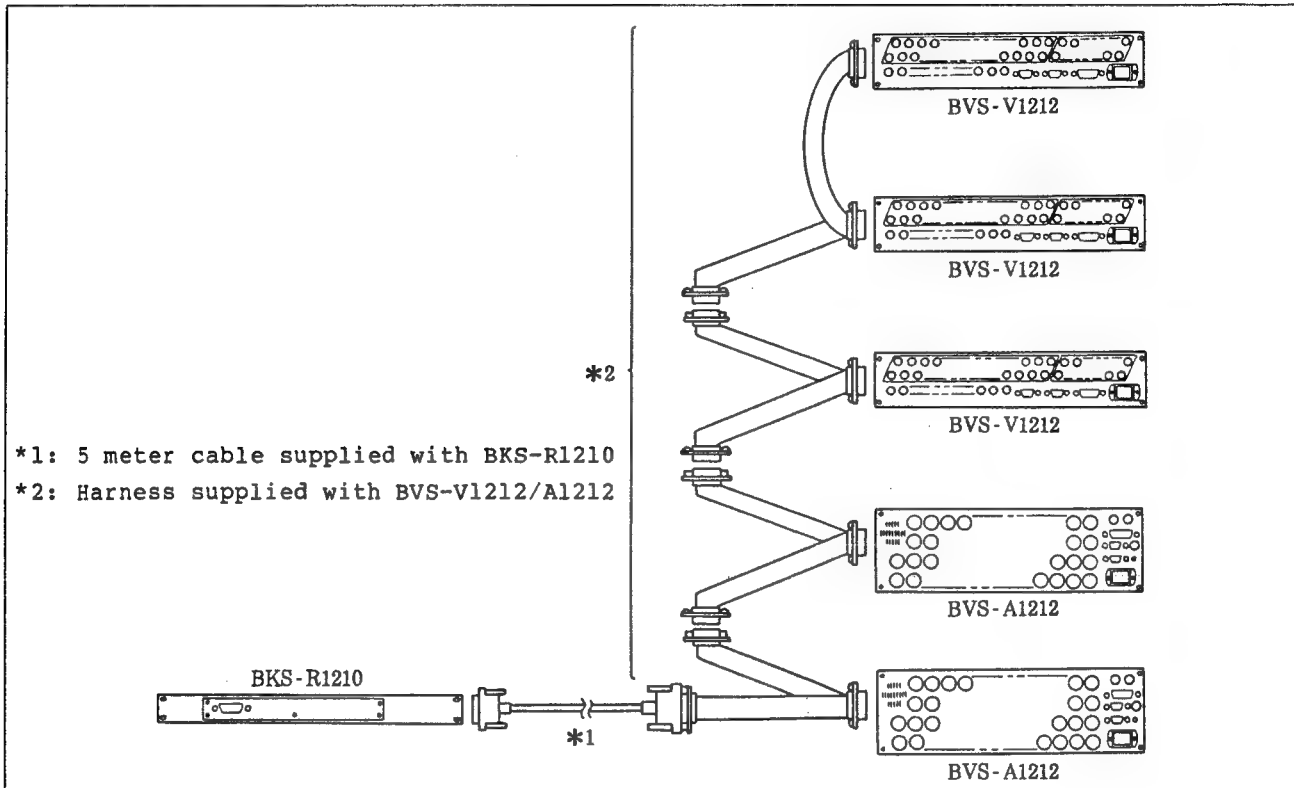
[Post connection settings]
(1) Set S2 and S3 on the CPU-68 boards of the connected BVS-V1212 and BVS-A1212 units all to the same setting.
(2) S1-7 on the CPU-68 board of one of the connected units should be set to CLOSE. Set S1-7 on the CPU-68 boards of all the other units to OPEN.

1-6. INSTALLATION OF BKS-R1210

.Connect to the CN1 of BKS-R1210 remote panel and REMOTE3 of BVS-A1212 by using remote control cable of BKS-R1210 accessories.
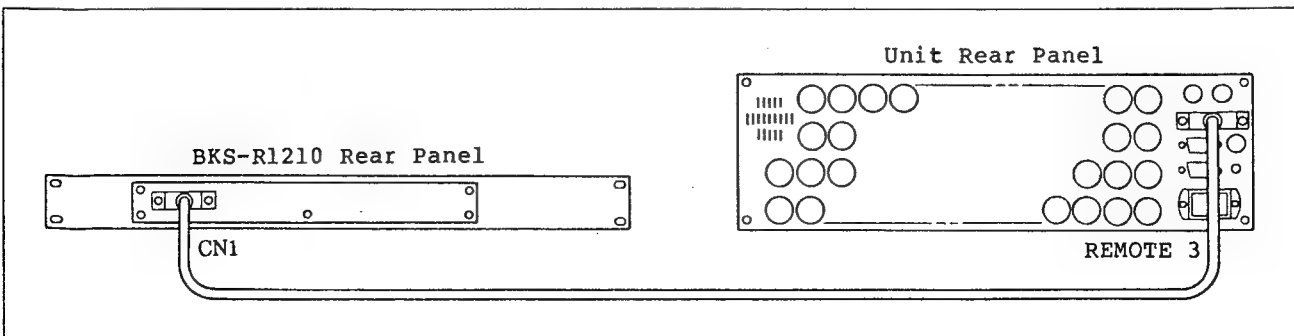
1-7. INPUT/OUTPUT SIGNALS OF THE CONNECTOR

The input/output signals of the connector on the connector panel are
the following.

1-7-1. BVS-A1212

REMOTE 1.2 (D-SUB 9PIN FEMALE)
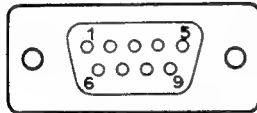
-EXT VIEW-

PIN No.	Signal	Function
1	F.G.	FRAME GROUND
2	RS422 T−	TRANSMIT A
3	RS422 R+	RECEIVE B
4	RS422 RCOM	RECEIVE SIGNAL COMMON
5	DS9-5 SPARE	
6	RS422 TCOM	TRANSMIT SIGNAL COMMON
7	RS422 T+	TRANSMIT B
8	RS422 R−	RECEIVE A
9	F.G.	FRAME GROUND

REMOTE 3.(D-SUB 25PIN FEMALE)
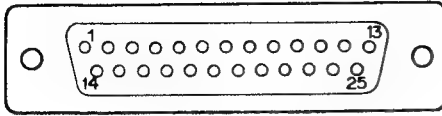
-EXT VIEW-

PIN No.	Signal	Function
1		
2		
3	+5 V	+5 V; OUTPUT
4		
5	DST-A	DESTINATION SELECT BINARY DATA; OUTPUT
6	DST-B	
7	DST-C	
8	DST-D	
9	CH-C	SOURCE, DESTINATION SELECT; INPUT
10	DST ONLY	SELECT DESTINATION ONLY; INPUT
11	SRC ONLY	SELECT SOURCE ONLY; INPUT
12		
13	SRC-A	SOURCE SELECT BINARY DATA; OUTPUT
14		
15		
16		
17	+5 V	+5 V; OUTPUT
18	GND	
19	CH-1	SOURCE, DESTINATION SELECT; INPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	SRC-D	SOURCE SELECT BINARY DATA; OUTPUT
24	SRC-C	
25	SRC-B	

1-7-2. BKS-R1210

(D-SUB 25PIN MALE)
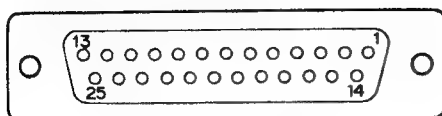
-EXT VIEW-

PIN No.	Signal	Function
1		
2	A2 ONLY	GREEN BUTTOM; OUTPUT
3	+5 V IN	+5 V FOR GREEN TALLY
4		
5	A1-A	GREEN TALLY BINARY DATA; INPUT
6	A1-B	
7	A1-C	
8	A1-D	
9	CH-C	BUTTOM BINARY DATA; OUTPUT
10	A1 ONLY	GREEN BUTTOM; OUTPUT
11	V ONLY	RED BUTTOM; OUTPUT
12	KEY ON	KEY ON SIGNAL; OUTPUT
13	V-A	RED TALLY BINARY DATA; INPUT
14		
15		
16		
17	+5 V IN	+5 V FOR RED TALLY
18	GND	
19	CH-1	BUTTOM BINARY DATA; OUTPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	V-D	RED TALLY BINARY DATA; INPUT
24	V-C	
25	V-B	

1-8.CONNECTOR

Function name of the connector on the connector panel	Part number of the connector and its name on the cable side
REMOTE 1, 2	RCC-5G RCC-10G (Remote control cable 9P) RCC-50G
REMOTE 3	Connector code (BKS-R1210) 1-574-883-11

1-9. RACK MOUNTING

1-9-1. Mounting onto a 19-inch Standard Rack

.BVS-A1212
Recommended products
Slide rail: RACKMOUNT SUDES MODEL C-203-22
        made by ACCURIDE.
        SLIDE LENGTH 22 INCH.
Bracket   : #5516-2 made by ACCURIDE

<Prepare the following>
Inner member attaching screw (+B4x6) 6
Flut nut (3 holes) 8 (SONY Part Number: 3-651-812-01)
Bracket mounting screw ① (+B4x8)   8
Bracket mounting screw ② (+B4x12) 12
Rack mounting screw (+RK5x16)   4
Rack mounting decorative washer   4
(SONY Part Number: 2-297-913-01)

1. Remove the four feet from the bottom of the unit.
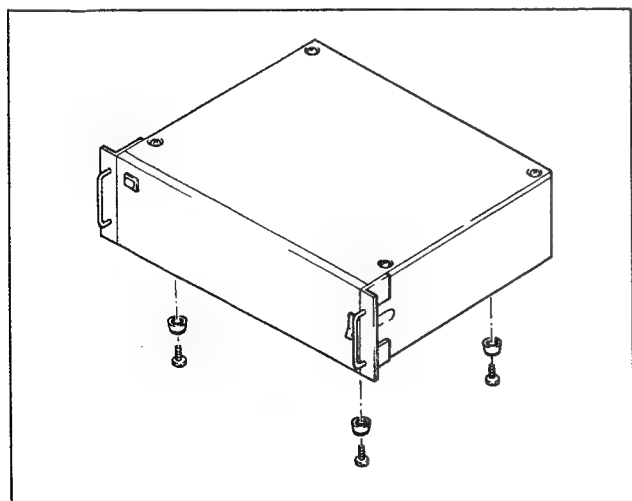
2. Attach the inner member of the slide rail with the screws (+B4x6).
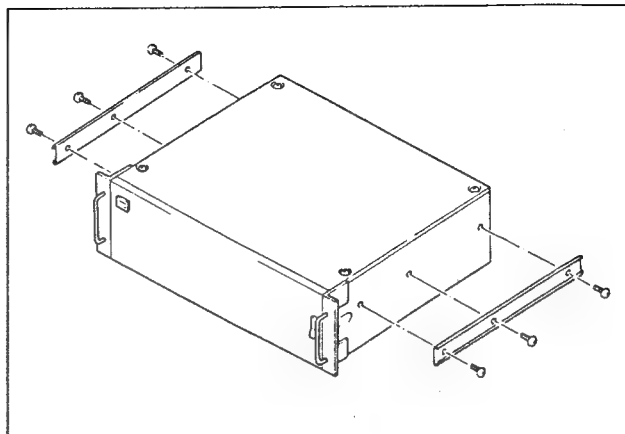
3. Tighten the bracket and the outer member of the slide rail temporarily with the eight screws (+B4x8) and with the four plate nuts which have 3 holes.
4. Attach the outer member bracket of the slide rail to the rack with a flat nut. Then adjust so that the length between the and of the slide rail and the outside of the rack is equal to that of the inner member at the set side.
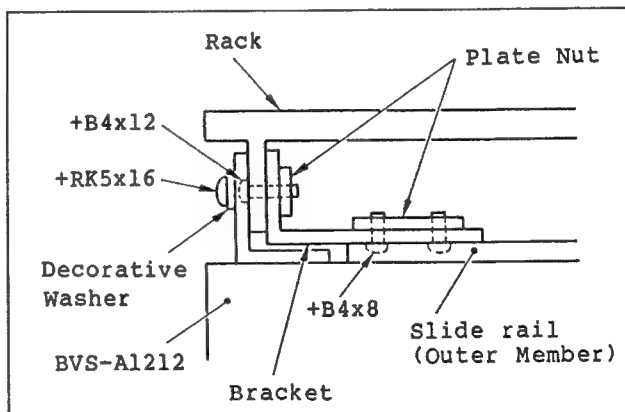
.BKS-R1210
<Prepare the follwing>
Rack mounting screw (+RK5x16) 4
Rack mounting decorative washer 4
(SONY Part Number: 2-297-913-01)

1. Attach with a rack mounting screw and a washer.

When BVS-A1212 is mounted on the rack, the maximum travel length is as follows.

Height of handle

30

Maximum travel length (406)

132

66

Distance between the bottom of the unit and the center of the slide rail

Height of the unit when it is mounted on the rack

Unit: mm
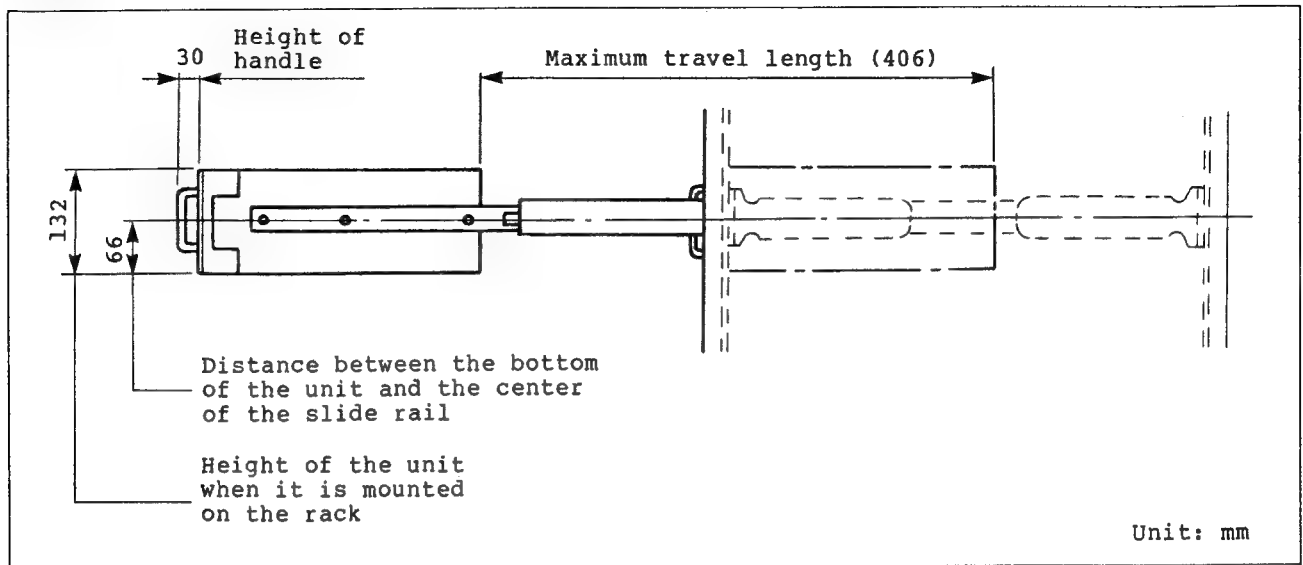
1-9-2. Mounting onto LMS (Library Management System)

Use the slide rail, rack angle, and bracket of the LMS console.

1. Remove the rack angle and the blank panel that are attachec to the console of LMS, and remove the rack angle from the blank panel.
2. Remove the four feet from the bottom of the unit.
3. Attach the rack angle with the screws (+B4x10)
4. Remove the inner member from the slide rail that is mounted on the console.
5. Attach the inner member of the slide rail with the screws. (+B4x10)

Note) Now, attach the inner member of the slide rail not to the recommended position in the above but 74.2mm from the bottom of the unit.

1-10. ACCESSORIES

.Power cable   (2)
.Operation Manual   (1)
.Maintenance Manual   (1)
.Pulg Holder   (1)
.BNC teminal   (1)
.Unit harnes(25P)   (1)

第2章
サービスインフォメーション

2-1. コンソールからの取り外し

・接続されているコネクターを抜き，コンソールから静か
　に引き抜いて下さい。

2-2. 外装の開閉／取り外し

上面パネル

4本のネジをはずすことで上面パネルは取り外せます。

②
①
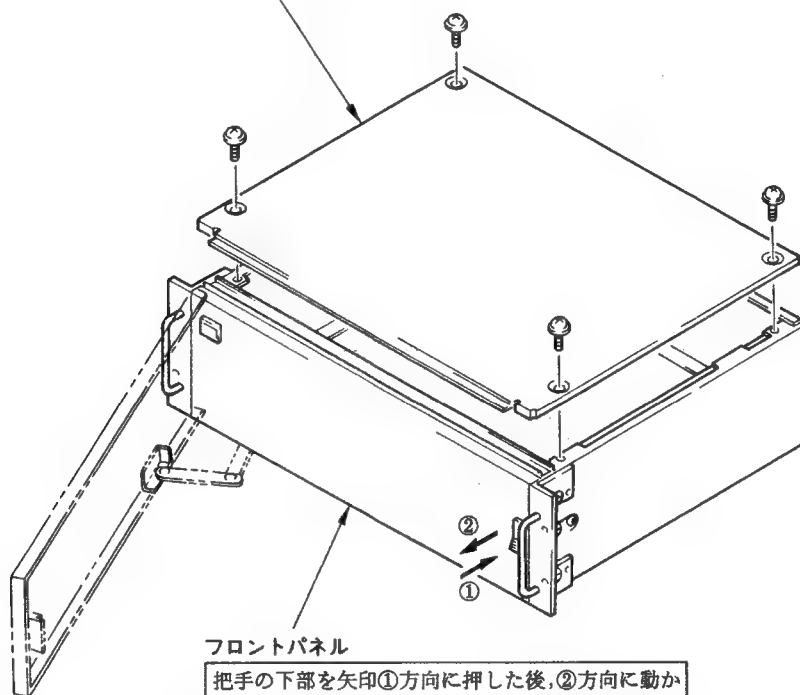
フロントパネル

把手の下部を矢印①方向に押した後，②方向に動か
します。これによりフロントパネルは開きます。
さらにヒンジ部分のシャフトをおこし③方向に押
すとフロントパネルを取りはずすことができます。

③
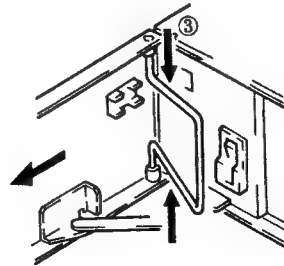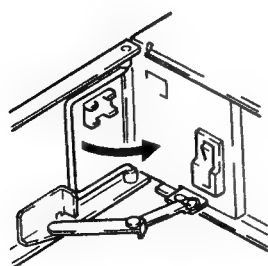
2-3. カード基板の取り付け／取り外し方

- 基板レバーを矢印＊の方向へ押し手前に引くと，取り外すことができます。
- 基板レバーガイド，基板ガイドに沿って，挿入します。基板レバーを矢印＊＊方向に倒すと基板を取り付けることができます。

基板レバー

基板レバー

基板レバー
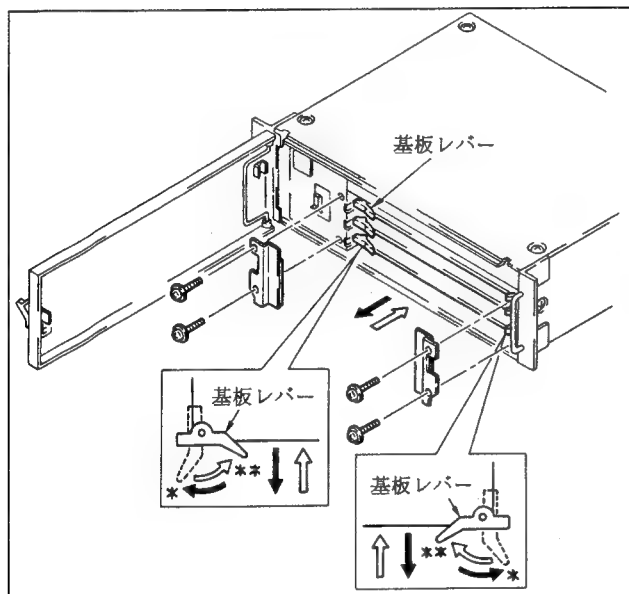
2-4. サービス方法

- CPU-68，ASW-17基板の調整方法
(1) BVS-V1212に付属している延長基板のレールを開きます。
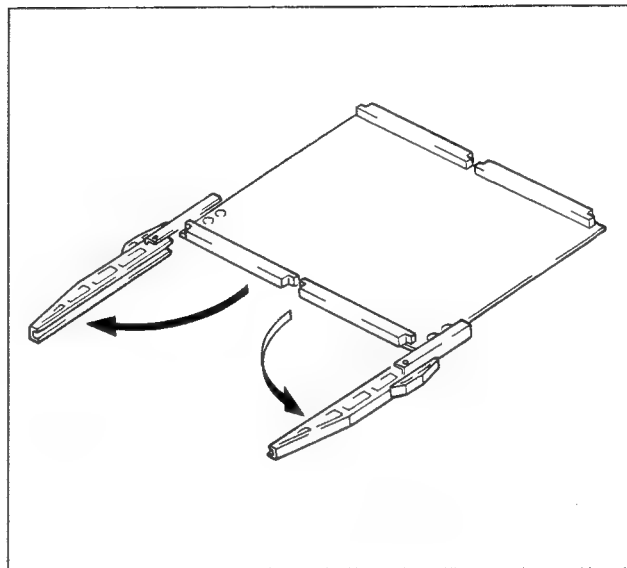
(2) レバーを外側に押し開いて調整基板を抜き，延長基板を差し込みます。

レバー

延長基板

調整する基板

レバー
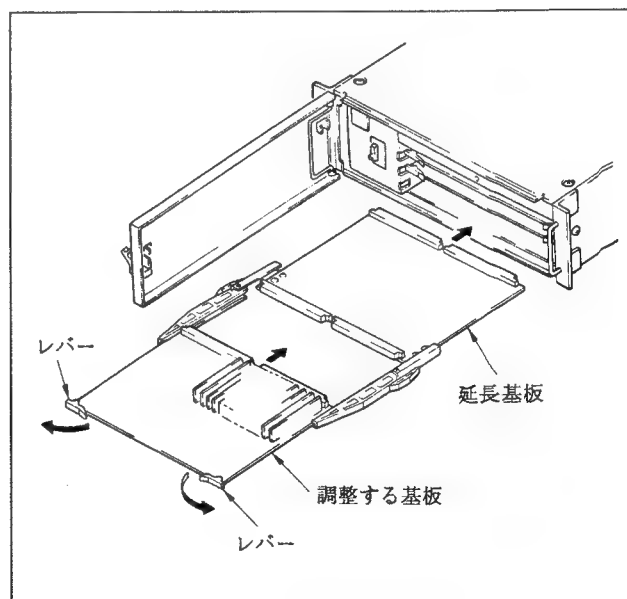
2-5. 回路構成

2-5-1. BVS-A1212

名　称	機　能
AA-48	オーディオアンプリファイヤーボード
ASW-17	オーディオマトリックスボード
CPU-68	CPUボード
LE-76	LEDボード
MB-262	マザーボード
TR-56	トランスボード

2-5-2. BKS-R1210

名　称	機　能
SW-354	スイッチボード

2-6. 基板配置図

<正面>

<上面>
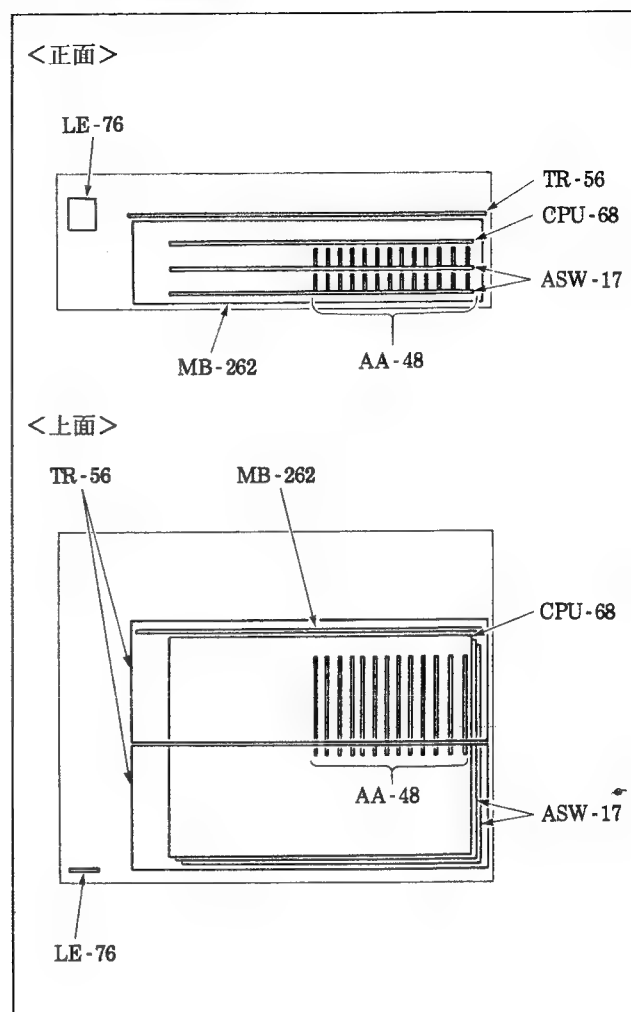
2-7. 電源の取り外し

(1) 天板を外します。
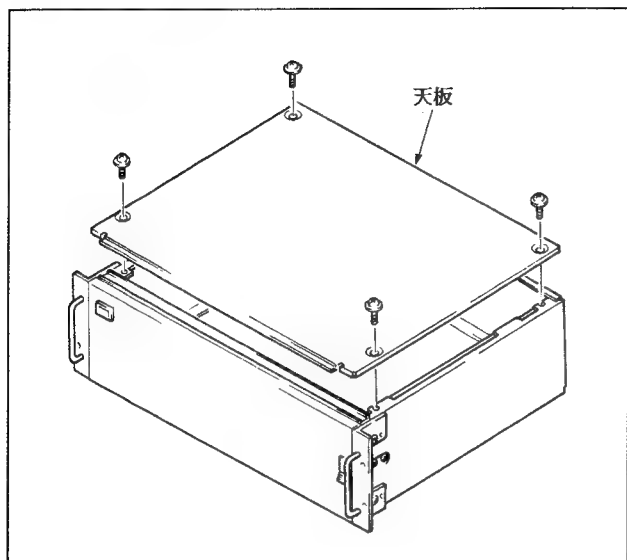
(2) TR-56基板，ビーム（上），TR補強板を外します。
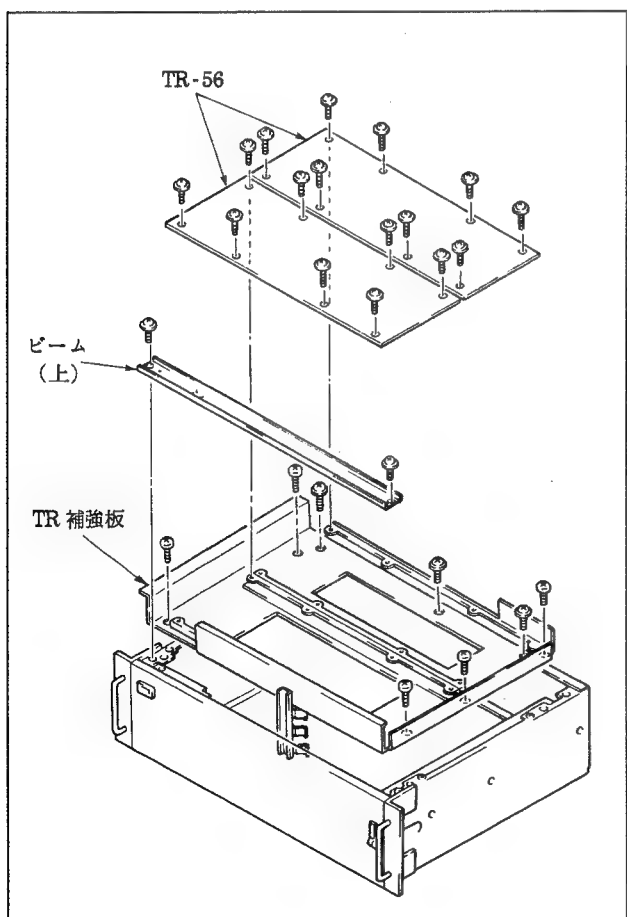
(3) 電源のコネクター（前後2ヶ所）を抜きます。

(4) シールドケースの止めネジを外すと，上にぬけます。
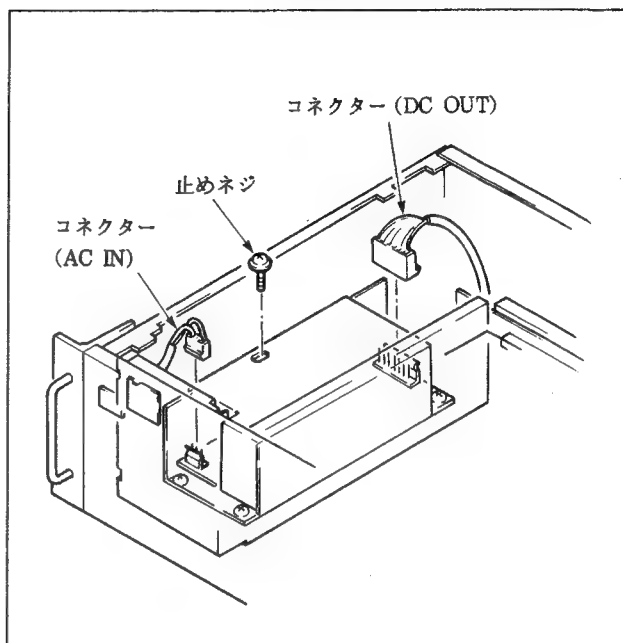
(5) 電源を止めているネジをはずします。
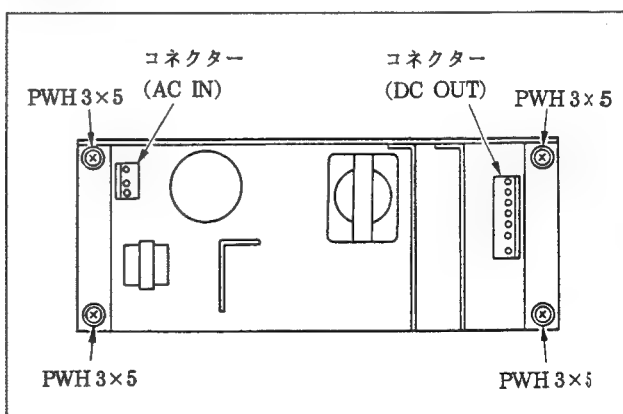
2-8 サービス部品

1. 回路図, 分解図, 電気部品リスト中で⚠️及び▨で囲まれた部品は, 安全性を維持するために重要な部品です。従ってこれらの部品を交換する時には必ず指定の部品と交換して下さい。

2. パーツセンターから供給される部品は, 実際にセットに使用している部品と形状等が異なることが時々あります。これらは「部品の共通化」等によるものです。

3. 分解図, 電気部品リスト中SP欄が〇で示されている部品は交換頻度が低い部品ですので, 在庫していないことがあり, 納期が長くなることがあります。

SECTION 2
SERVICE INFORMATION

2-1. REMOVAL FROM THE CONSOLE

.Remove all connectors and slowly pull out
 the from the console.

2-2. OPENING/REMOVAL OF CABINET

Upper Panel

> Loosen the four fixing screws and remove
> the Upper.

Fornt Panel

> Push lower side of knob in the direction of
> arrow ①.
> Move knob in the direction of arrrow ②.
> Then pull up the shaft of the hinge portion
> and push it in the diection of ③.
> The front panel can be remove.
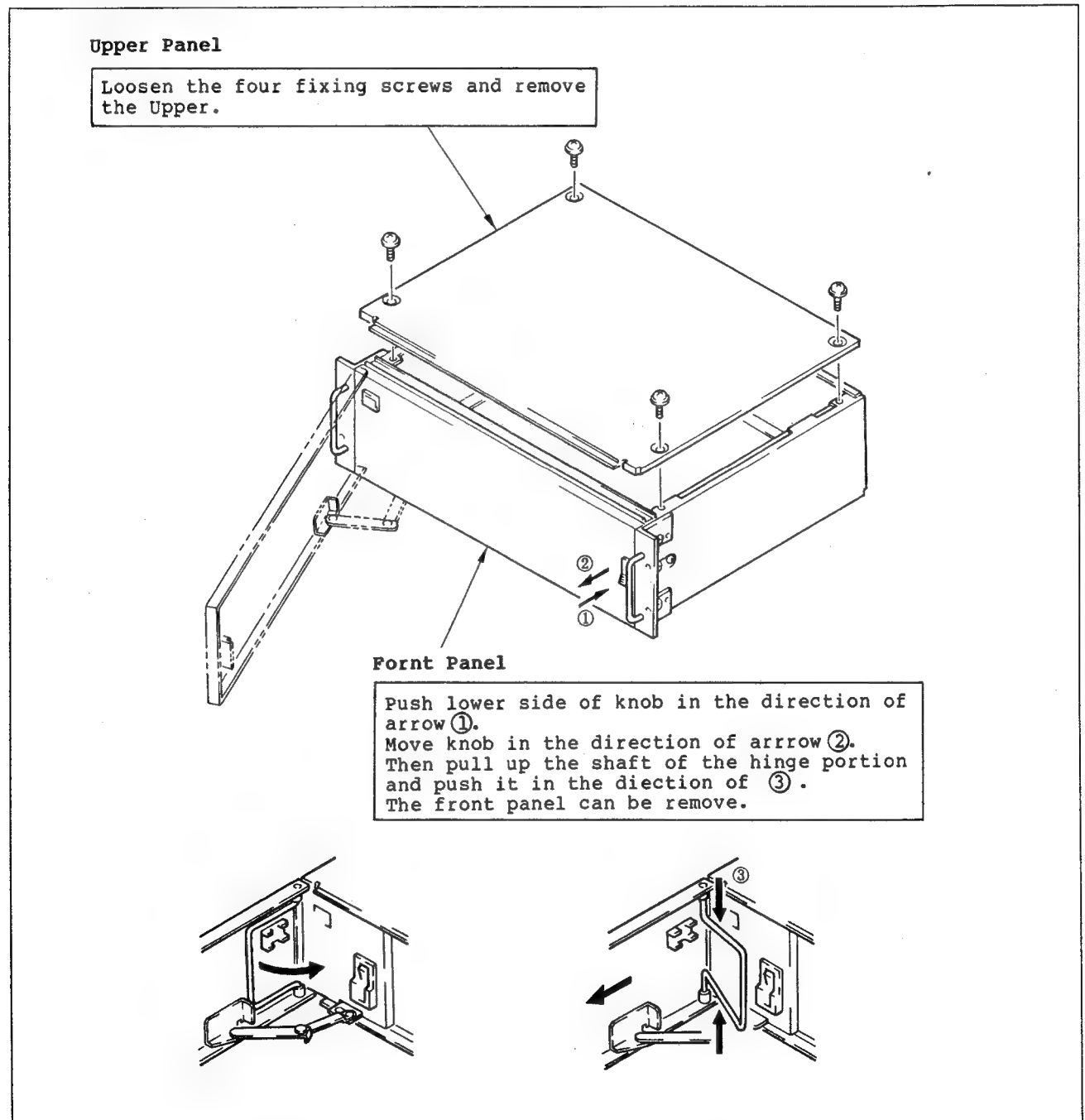
2-3. REMOVAL/INSTALL PROCEDURE

. Pushing in the direction of the *, pull out by the lever. The card board can be removed.

. Insert the board along with the lever in the direction of **, the card can be installed.
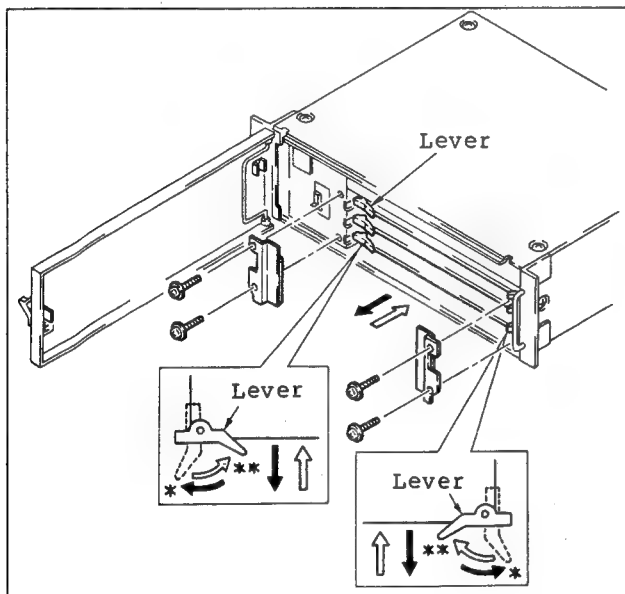
2-4. SERVICE

Adjusting card board (CPU-68 and ASW-17 board)

(1) Open the rail of the extension board.
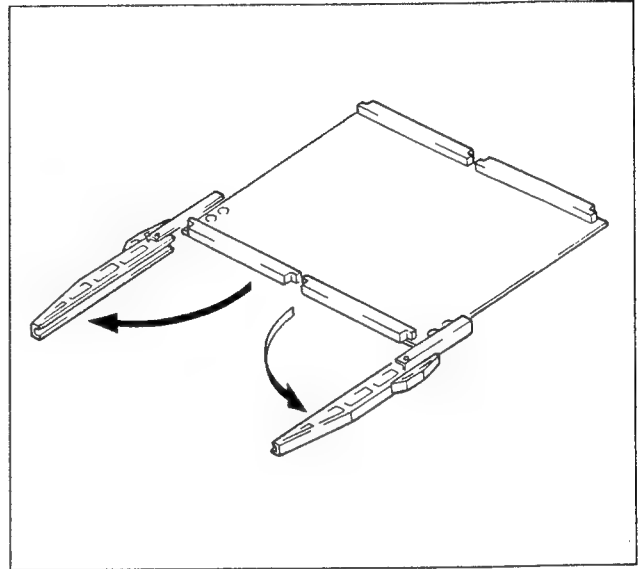
(2) Pull out the lever out side and remove the board to be adjusted then attach the extension board.
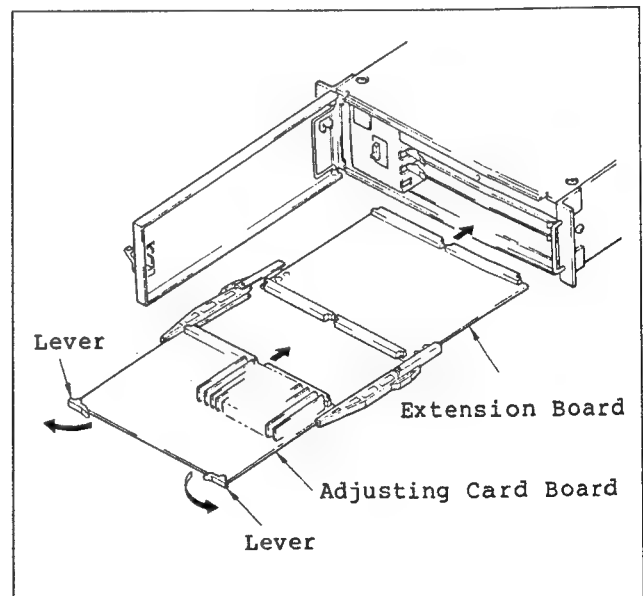
2-5. CIRCUT CONFIGURATION

2-5-1. BVS-A1212

Board Name	Functions
AA-48	AUDIO AMPLIFIER BOARD
ASW-17	AUDIO MATRIX BOARD
CPU-68	CPU BOARD
LE-76	LED BOARD
MB-262	MOTHER BOARD
TR-56	TRANS BOARD

2-5-2. BKS-R1210

Board Name	Functions
SW-354	SWITCH BOARD

2-6. LAYOUT OF THE PRINT BOARD

<Front>

LE-76, TR-56, CPU-68, ASW-17, MB-262, AA-48

<Top>

TR-56, MB-262, CPU-68, AA-48, ASW-17, LE-76
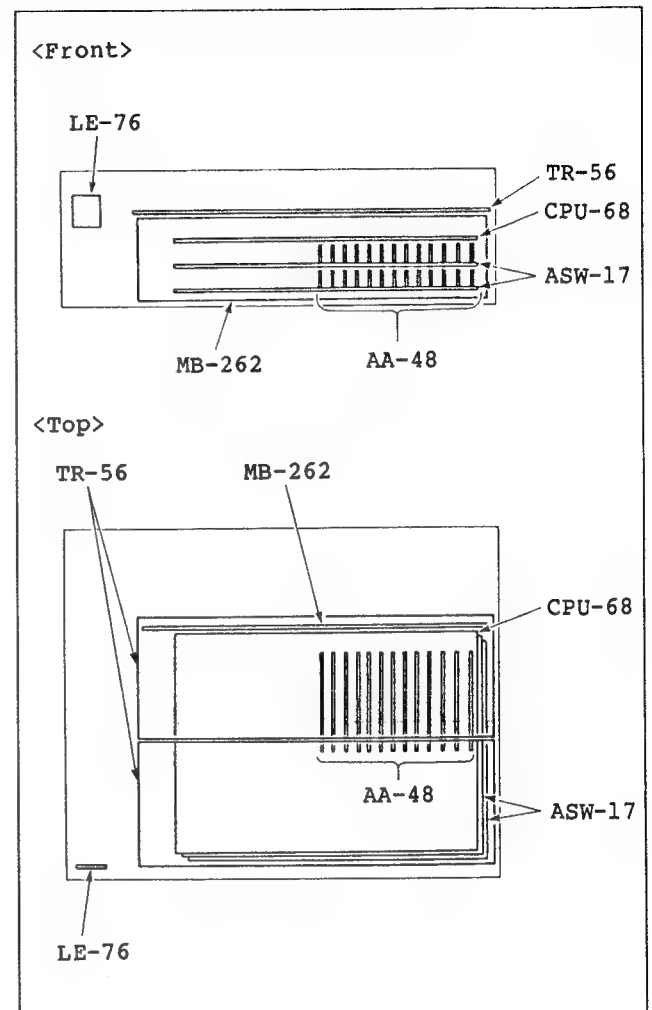
2-7. HOW TO REMOVE SWITCHING REGULATOR

(1) Remove the top cover.
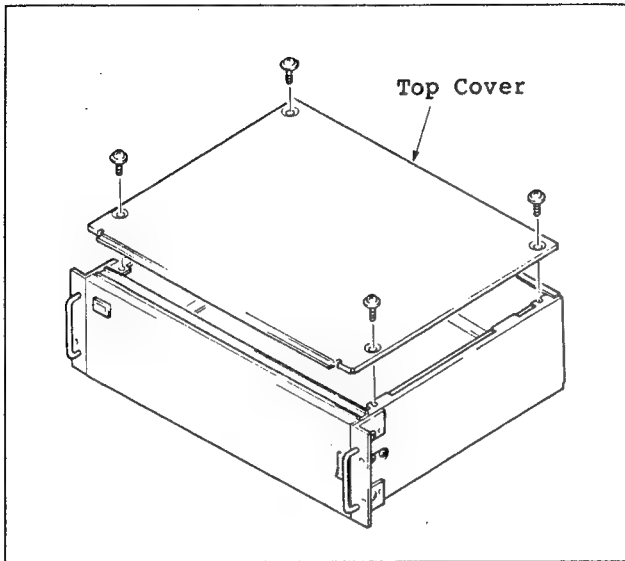
(2) Remove the TR-56 board, beam (upper), and the TR reinforcing plate.
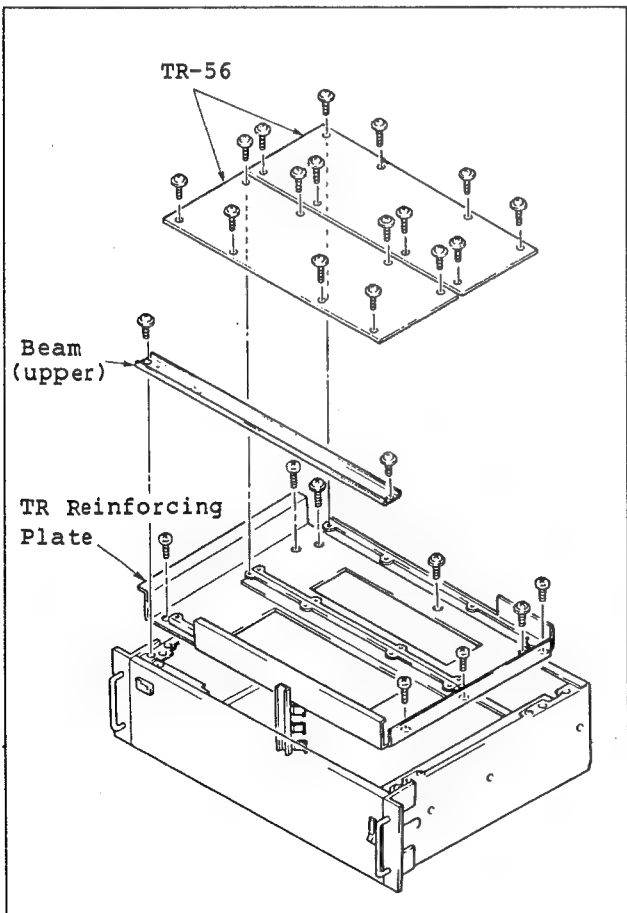
(3) Remove two connectors (front and back).

(4) Remove the screw of the shield case.
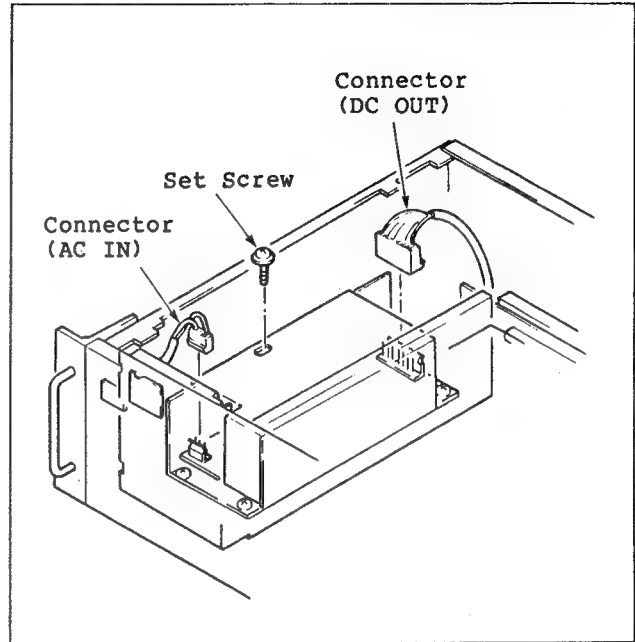
(5) Remove four screws tightened the switching vegulator.
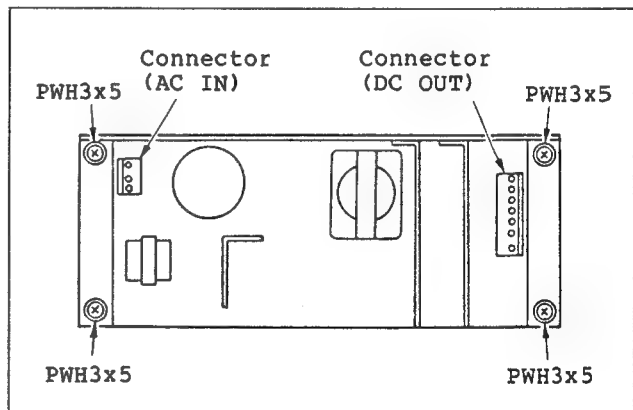
2-8. NOTES ON REPAIR PARTS

(1) Safety Related Components Warning

Components identified by shading marked
with ⚠ on the schematic diagrams, explod-
ed views and electrical spare parts list
are critical to safe operation. Replace
these components with Sony parts whose
part numbers appear in this manual or in
service bulletins and service manual
supplements published by Sony.

(2) Standardization of Parts

Repair parts supplied from Sony Parts
Center may not be always identical with
the parts which actually in use due to
"accommodating the improved parts and/
or engineering changes" or "standard-
ization of genuine parts".
This manual's exploded views and elec-
trical spare parts list are indicating
the part numbers of "the standardized
genuine parts at present".

(3) Stock of Parts

Parts marked with "o" SP (supply Code)
column of the spare parts list are not
normally required for routine service
work. Orders for parts marked withe "o"
will be processed, but allow for addition-
al delivery time.

第3章
テストモード

3-1．起動方法

CPU-68基板上のS1-1をOPENにして電源を立ち上げる，もしくは，S11のリセットボタンを押すと，
テストモードになります。
テスト項目はS1-2～6を使って設定します。

3-2．終了方法

CPU-68基板上のS1-1をCLOSEにして，S11のリセットボタンを押すとテストモードは解除されます。

3-3．手順

Step 1.
　S1-1をCLOSEにしてテスト項目入力待ち状態にします。
Step 2.
　S1-2～6を使って項目を設定します。
Step 3.
　S1-1をOPENにして，そのテスト項目の内容を実行します。
　(3-4テストモード参照)
Step 4.
　S1-1をCLOSEにして，そのテスト項目を終了します。
　(Step 1. テスト項目の入力待ちの状態に戻ります)
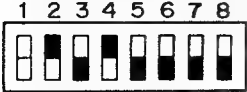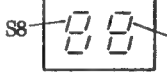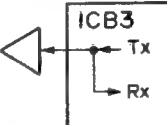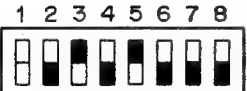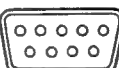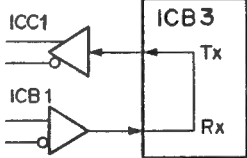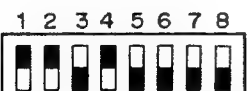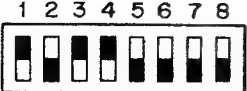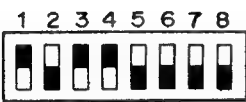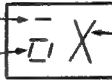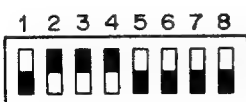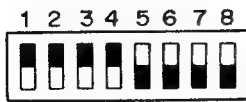
3-4．テストモード

項目 (HEX)	スイッチのセッティング (OPEN＝ON，CLOSE＝OFF)	内　容
0	1 2 3 4 5 6 7 8　OPEN CLOSE	ND1　7セグメントLEDチェック 00→11→22→33→……→FF→　を繰り返します。
1	1 2 3 4 5 6 7 8　OPEN CLOSE	BZ1　ブザーON 注) JW2をENAに設定して下さい。
2	1 2 3 4 5 6 7 8　OPEN CLOSE	S1チェック　　　結果を7セグメントLEDにHEX表示します。
3	1 2 3 4 5 6 7 8　OPEN CLOSE	S2, 3チェック S2 ⎓⎓ S3　　結果を7セグメントLEDにHEX表示します。
4	1 2 3 4 5 6 7 8　OPEN CLOSE	S4チェック　　　結果を7セグメントLEDにHEX表示します。

項目 (HEX)	スイッチのセッティング (OPEN＝ON，CLOSE＝OFF)	内　　容
5	1 2 3 4 5 6 7 8　OPEN / CLOSE	S5 チェック　　　結果を7セグメント LED に HEX 表示します。
6	1 2 3 4 5 6 7 8　OPEN / CLOSE	S6,7 チェック S6—[88]—S7　　結果を7セグメント LED に HEX 表示します。
7	1 2 3 4 5 6 7 8　OPEN / CLOSE	S8,9 チェック S8—[88]—S9　　結果を7セグメント LED に HEX 表示します。
8	1 2 3 4 5 6 7 8　OPEN / CLOSE	未定義
9	1 2 3 4 5 6 7 8　OPEN / CLOSE	ICB3 UPD72001C LOCAL SELF テスト ICB3 UPD72001C と ICE4 UPD70320間の制御バスの確認をします。 正常時　7セグメント LED に "00" 表示します。 NG時　7セグメント LED に "FF" 表示し，制御バスの確認が必要です。
A	1 2 3 4 5 6 7 8　OPEN / CLOSE	ICB3 UPD72001C ECHO LOOP テスト REMOTE 1 及び 2 と ICB3 UPD72001C 間のつながりの確認ができます。 REMOTE 1 からの入力をそのまま ECHO BACK しています。
B	1 2 3 4 5 6 7 8　OPEN / CLOSE	未定義
C	1 2 3 4 5 6 7 8　OPEN / CLOSE	RAM WRITE／REEAD ICB6 RAM と ICE4 UPD70320間の制御バスの確認をします。 正常時　7セグメント LED "00" に表示します。 NG時　7セグメント LED "FF" に表示し，制御バスの確認が必要です。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内　　容
D	1 2 3 4 5 6 7 8　OPEN / CLOSE	BKS-R1210 ECHO BACK テスト（Xpt No. はかわりません） 7 セグメント LED にてボタン入力が確認できます。 7 セグメント RED ボタンを押した時 ─── ─X ─── DON'T CARE GREEN ボタンを押した時 ─── □X DON'T CARE ── X□　CHANNEL ボタンを 押した時 1 2 3 4 5 6 7 8 9 10 11 12
E	1 2 3 4 5 6 7 8　OPEN / CLOSE	未定義
F	1 2 3 4 5 6 7 8　OPEN / CLOSE	REF VIDEO 入力及び ICG2 LM1881M の確認ができます。 REF 入力　無　"00" REF 入力　有　FRAME パルス有　"1F" REF 入力　有　FRAME パルス無　"10" 　　　⇒ ICG2 LM1881M7番ピンの確認が必要です。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内　容
10	1 2 3 4 5 6 7 8　OPEN / CLOSE	S2 と S3 の組み合わせにより Xpt を切り換えます。 注）この時 BKS-R1210 からのコントロールはできません。 基本的には S2 が DESTINATION を指示し，S3 が SOURCE を指示します。

S3 の設定値

S2 が "E" "F" の時は DESTINATION 1～12 と MONITOR の
DESTINATION 側を一斉に S3 の設定値に切り換えます。
S3=0, D, E, F の時は，約1秒おきに 1→2→3→……→11→12→1 と
SOURCE を切り換えます。

| 11 | 　1 2 3 4 5 6 7 8　OPEN / CLOSE | MATRIX 1 (CS1側) の CXD1095Q のポート出力確認
PA 0 から PE 4 まで，約1秒おきに HIGH LEVEL にすると同時に，
READ して確認します。 |

7-SEG LED には今，出力しているポート名を表示します。

（例）PA1　| A1 |

入出力が異なっていればそのポートにて終了し，ブザーを鳴らします。
この時は CXD1095Q のポートを確認する必要があります。
正常終了時は，| ー ー | となります。

項目 (HEX)	スイッチのセッティング (OPEN＝ON，CLOSE＝OFF)	内　　　容
12	1 2 3 4 5 6 7 8　OPEN / CLOSE	MATRIX 2（CS2側）の CXD1095Q を確認します。 　項目11と同じ
13	1 2 3 4 5 6 7 8　OPEN / CLOSE	VISTB パルス出力テスト ICB7 12番ピンにて VISTB パルス出力を確認できます。

VISTB パルス出力テスト (項目13) 内容表:

	S2	7-SEG 表示	出力形式
REF 入力無	—	"d"	16〜18 msec インターバル
REF 入力有	0	"d"	16〜18 msec インターバル
	1	"F"	毎 Field
	2	"F1"	毎 ODD Field
	3	"F2"	毎 EVEN Field

SECTION 3
TEST MODE

3-1. HOW TO MOVE

When SW1-1 on the CPU-68 board is turned OPEN the set is on, or RESET button
of SW11 is push, the TEST MODE is active.
The TEST MODE is set by using from SW1-2 to SW1-6.

3-2. HOW TO CLOSE

Cancel the TEST MODE setting to CLOSE SW1-1 and RESET button of SW11 is push
on the CPU-68 board.

3-3. ARRANGEMENTS

step1
  SW1-1 is set to CLOSE, and put the unit into performing TEST items.
step2
  Set the items using from SW1-2 to SW1-6.
step3
  Set the SW1-1 to OPEN, perform the contents of the TEST items.
  (Refer to function of 3-4 TEST MODE for details).
step4
  Set the SW1-1 to CLOSE, finish the TEST items.
  (Return the state of step1.)
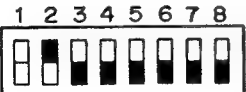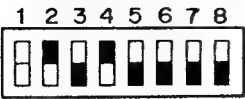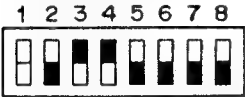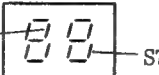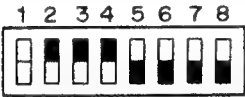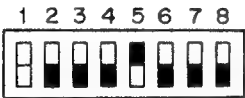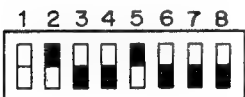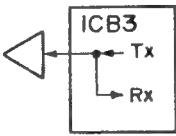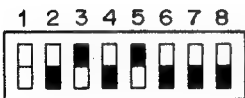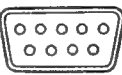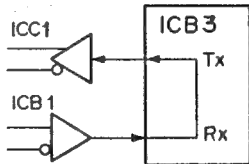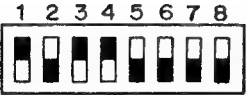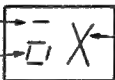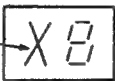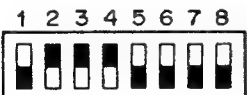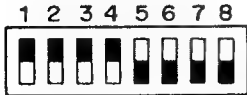
3-4. TEST MODE

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
0	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the ND1 7-SEGMENT LED Repeat the 00→11→22→33→ ······ →FF→00.
1	1 2 3 4 5 6 7 8 OPEN / CLOSE	BZ1 buzzer ON note) Set the JW2 to ENA.
2	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the SW1 The results is displayed HEX in 7-SEG LED.
3	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the SW2 and 3. S2 —⌷⌷— S3 The results is displayed HEX in 7-SEG LED.
4	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the SW4 The results is displayed HEX in 7-SEG LED.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
5	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the SW5 The results is displayed HEX in 7-SEG LED.
6	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the SW6 and 7. S6 — [display] — S7 The results is displayed HEX in 7-SEG LED.
7	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the SW8 and 9. S8 — [display] — S9 The results is displayed HEX in 7-SEG LED.
8	1 2 3 4 5 6 7 8 OPEN / CLOSE	Undefinition
9	1 2 3 4 5 6 7 8 OPEN / CLOSE	ICB3 UPD72001C LOCAL SELF TEST Check the control bus between ICB3 UPD72001C and ICE4 UPD70320. ICB3 → Tx, Rx OK display "00" in 7-SEG LED. NG display "FF" in 7-SEG LED, and need to check the control bus.
A	1 2 3 4 5 6 7 8 OPEN / CLOSE	ICB3 UPD72001C ECHO LOOP TEST Check the relations between REMOTE 1 and 2, and ICB3 UPD72001C and ECHO BACK inputs from TEMOTE 1 as it is. REMOTE 1 REMOTE 2 ICC1, ICB1, ICB3, Tx, Rx
B	1 2 3 4 5 6 7 8 OPEN / CLOSE	Undifinition
C	1 2 3 4 5 6 7 8 OPEN / CLOSE	RAM WRITE/READ Check the control bus between ICB6 RAM and ICE4 UPD70320 OK display "00" in 7-SEG LED. NG display "FF" in 7-SEG LED, and need to check the control bus.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
D	1 2 3 4 5 6 7 8 OPEN/CLOSE	BKS-R1210 ECHO TEST (No change X'pt NO.) Check the buttons inputs in 7-SEGMENT LED. 7-SEG When push the RED button / When push the GREEN button — DON'T CARE. DON'T CARE — When push the CHANNEL button. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
E	1 2 3 4 5 6 7 8 OPEN/CLOSE	Undifinition
F	1 2 3 4 5 6 7 8 OPEN/CLOSE	Check the REF VIDEO and the ICG2 LM1881M. REF input (disable) "00" REF input (enable) FRAME pluse enable "1F" REF input (enable) FRAME pluse disable "10" ⇒ Need to check the seventh pin of ICG2 LM1881M.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
10	1 2 3 4 5 6 7 8 OPEN / CLOSE	Change the Xpt by conbination SW2 and 3. note) Disable to control from BKS-R1210. Fundamentally, SW2 display the destination, and SW3 display the source.

S3
(HEX)   1 2 3 4 5 6 7 8 9 A B C
SOURCE 1 2 3 4 5 6 7 8 9 10 11 12

DESTI-NATION (S2 HEX):
1 → 1
2 → 2
3 → 3
4 → 4
5 → 5
6 → 6
7 → 7
8 → 8
9 → 9
10 → A
11 → B
12 → C
MONITOR D → D
C → O

When SW2 is set to E and F, change the side destination of monitor and from destination 1 to 12 to setting number of SW3 all together.
When SW3 equal 0, D, E, F, SOURCE is changed about every other second 1→2→3→ ······ →11→12→1.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
11	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the port outputs CXD1095Q of MATRX 1 (the side of CS1) Set to HIGH LEVEL about every other second, at the same time, check READ from PA0 to PE4.

Display the port name of output in 7-SEG

(Exm.) PA1 [A1]

If input and output are different, finished the port.
Need to check the port of CXD1095Q.
When the port out is finished, displayed [−−].

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
12	1 2 3 4 5 6 7 8 OPEN / CLOSE	Check the CXD1095Q of MATRIX2 (the side of CS2). The same as Item 11.
13	1 2 3 4 5 6 7 8 OPEN / CLOSE	VISTB PULSE output test Enable to check VISTB PLUSE output in ICB7-12 pin.

For Item 13:

	S2	7-SEG displayed	Output form
REF input (disable)	—	"d"	16 msec interval
REF input (enable)	0	"d"	16 msec interval
	1	"F"	every field
	2	"F1"	every ODD field
	3	"F2"	every EVEN field

第4章
電気調整要項

[必要な機器]

・オーディオ信号発生器　：テクトロニクス5010または同等品

・オーディオレベルメータ：テクトロニクスAA501A(オーディオアナライザー)または同等品

・延長基板：　　　　　　　ビデオルーティングスイッチャーBVS-V1212に付属

[接続]

オーディオ信号発生器

+
—OUTPUT
C

REF IN

BVS-A1212

INPUT

OUTPUT

ACボルトメーター

+
— INPUT
GND

600Ω

[調整基板配置図]

CPU-68基板

TR-56基板

AA-48基板
(CH-1)

ASW-17基板
(CH-1)

ASW-17基板
(CH-2)

AA-48基板
(CH-2)
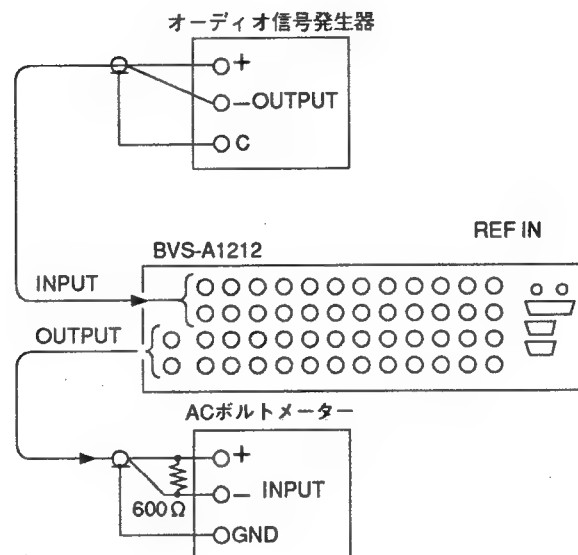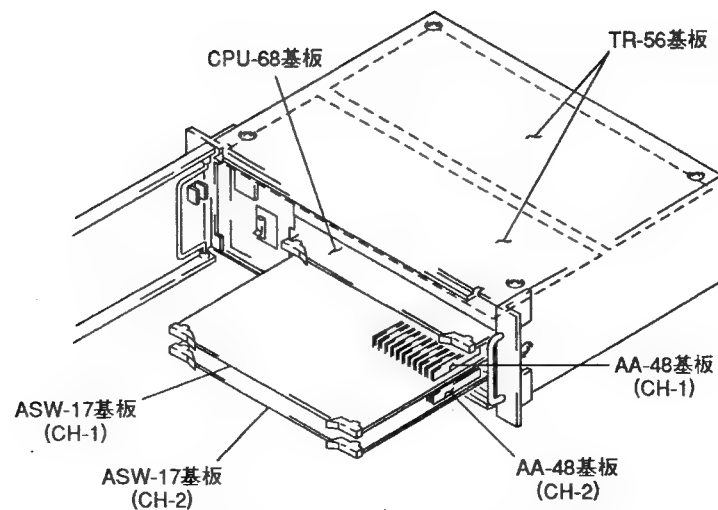
※調整の際には延長基板を使用してください。

[入出力チャンネルの設定]

調整にあたり入出力チャンネルの切り換えとそのための
スイッチの設定、操作が必要となります。
出力レベル調整の場合には、各出力とも同一の入力を選
択して全出力チャンネルの調整を行います。
入力部のCMR調整の場合には入力チャンネルを切り換え
て調整を行います。

(1) CPU-68基板の前面スイッチS1-1をOPENにします。
  (テストモード設定)
(2) 電源をONします。(テストモード起動)
  注)すでに電源がONになっている場合は、リセットボ
  タンS11を押してリセットします。
(3) S1-1をCLOSEにします。(テスト条件設定待ち)
(4) S1-6をOPENにします。(クロスポイントの設定モード)
(5) S2をF(又はE)に設定します。(OUTPUT1～12の
  SOURCEをS3で設定するモード)
(6) S1-1をOPENにします。(テスト条件の取り込み)
(7) S3を1に設定します。(SOURCE1を選択)
  この状態でOUTPUT1～12にはSOURCE1が選択されて
  おり、入力1に信号を供給すれば出力チャンネル1～
  12の各出力レベル調整ができます。
(8) S2を0に設定します。(MONITOR列のSOURCEをS3で
  設定するモード)
  この時S3を1に設定し、MONITOR列の出力レベル調
  整を行います。
  (MONITOR OUTPUTにはSOURCE1が選択されていま
  す)
(9) S2をF(又はE)に設定します。
  OUTPUT1を測定出力とします。
  入力1～12を1チャンネルづつ指定して、CMR調整を
  行います。
(10) 調整が完了したら、各設定スイッチを元に戻します。
  一度電源を切るか、又はリセットスイッチS11を押し
  ます。
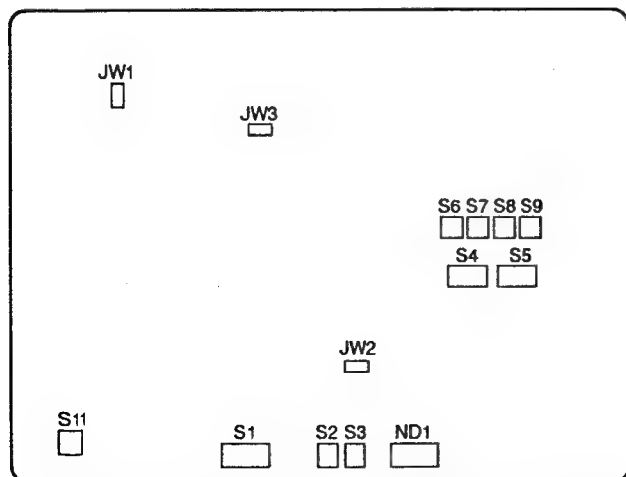
CPU-68基板 (部品面)

・TR-56基板

S1～S13を全て600Ωに切り換えます。
  (工場出荷時：全て600Ωに設定されています。)
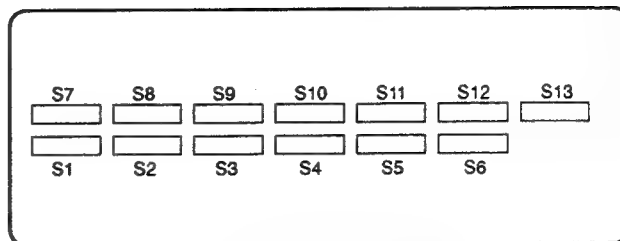
TR-56基板 (部品面)

ASW-21基板の入力インピーダンススイッチ(600Ω
ON/OFFスイッチ；S1～12)はONにします。

4-1. レベル調整

[調整前の設定]

・信号発生器の設定

オーディオ信号発生器を
出力インピーダンス —————	600 Ω
FLOATING/GND —————	FLOATING
周波数 —————	1kHz

に設定して下図のように接続し、オーディオレベルメーターの読みが+4dBm(1.228V)
になるように、オーディオ信号発生器の出力を設定します。
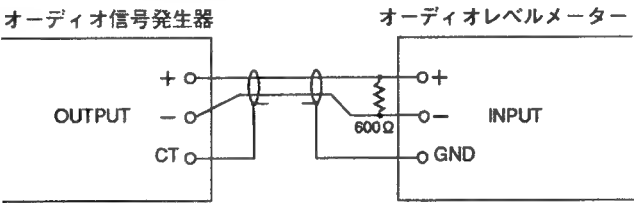
[接続]
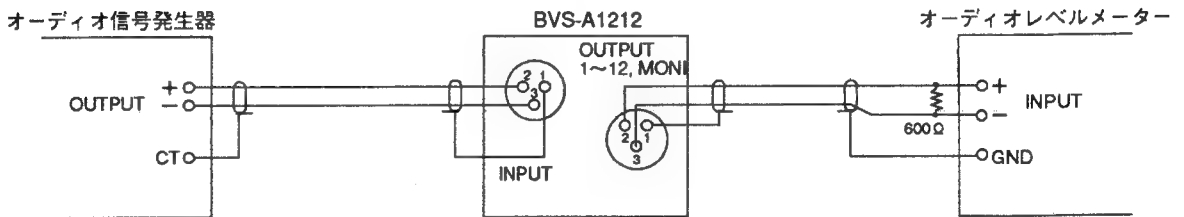
調整時の状態	規格	調整箇所
・オーディオ信号発生器の出力を CH1のINPUT1に、オーディオレベルメーターをCH1のOUTPUT1に上図のように接続します。 ・CPU-68基板のS2をFにS3を1に設定します。	・オーディオレベルメーターのレベルが +4± 0.1dBm(1.228±0.014V)になるようにします。	✏ RV1/AA-48基板 (CH1側)

S2、S3の設定値を変えずにオーディオレベルメータを
OUTPUT2～12.MONIに接続して、各々のボリュームで同
様の調整を行って下さい。

OUTPUT	ボリューム
2	RV1/AA-48-2
3	RV1/AA-48-3
4	RV1/AA-48-4
5	RV1/AA-48-5
6	RV1/AA-48-6
7	RV1/AA-48-7
8	RV1/AA-48-8
9	RV1/AA-48-9
10	RV1/AA-48-10
11	RV1/AA-48-11
12	RV1/AA-48-12
MONI	RV1/AA-48-MONI

AA-48基板 (A Side)

※CH2の調整も同様に行って下さい。

4−2． CMR (Common Mode Rejection)調整

[調整前の設定]

・**信号発生器の設定**

オーディオ信号発生器の出力を

出力インピーダンス	600 Ω
FLOATING/GND	FLOATING
周波数	60Hz

に設定して下さい。
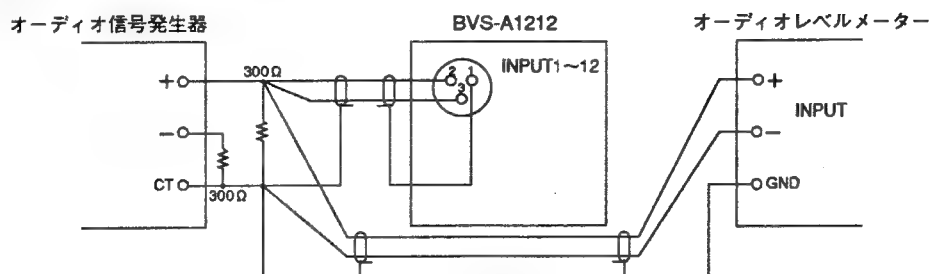
図のように接続し、オーディオレベルメーターの読みが＋15dBmになるように、出力レベルを設定します。

[接続]

調整時の状態	規格	調整箇所
・CH1のINPUT1にオーディオ信号発生器、CH1のOUTPUT1にオーディオレベルメーターを上図のように接続します。 ・CPU-68基板のS2をFに、S3を1に設定します。	・オーディオレベルメーターの指示値を最小にします。 AUDIO IN ：60Hz ＋ 15dBm AUDIO OUT：−75dBm以下	❷ RV1/ASW-17 （CH-1側）

信号発生器をINPUT2〜12に接続し、クロスポイント(S3の指示値)を切り換えながら、同様の調整を行って下さい。チャンネルに応じて各々のボリュームで調整して下さい。
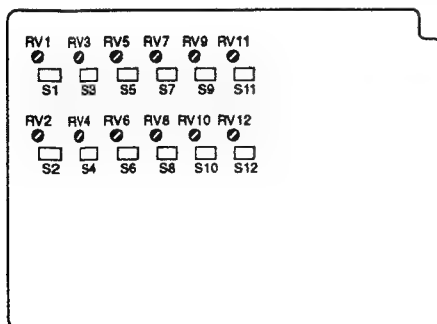
ASW-17基板 (部品面)

INPUT	ボリューム
2	RV2
3	RV3
4	RV4
5	RV5
6	RV6
7	RV7
8	RV8
9	RV9
10	RV10
11	RV11
12	RV12

※CH2の調整も同様に行って下さい。

SECTION 4
ELECTRICAL ALIGNMENT

[Required equipment]

- Audio signal generator: Tectronix AA501A (audio analyzer) or equivalent
- Audio level meter: Tectronix 1410 or the equivalent
- Extension board: Video routine switcher. Attached to BVS-V1212.

[Connections]
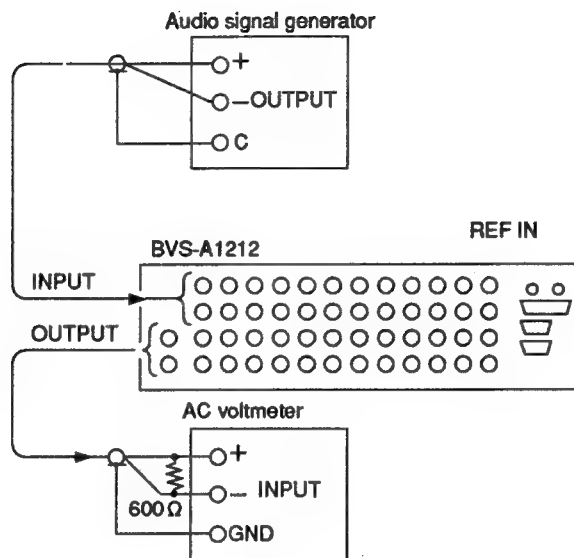
[Layout of the print board]
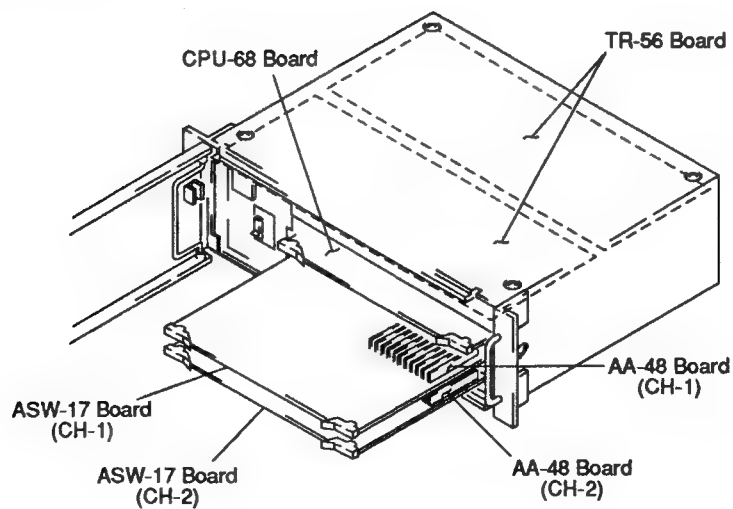
※ Use an extension board for adjustment.

[Setting of the Input / Output Channel]

The input / output channel need be switched before adjustment. This in turn requires setting and operation of switches.

For adjustment of the output level, select the same input for all outputa and adjust all output channels.

For adjustment of CMR of the input, select the input channel.

1) Open the switch S1-1 in the front of CPU-68 board. (Setting of the test mode)
2) Turn ON power supply. (Test mode start)
   Note: When power supply is already ON, press the reset button switch for resetting.
3) Close S1-1. (Wait for test condition setting)
4) Open S1-6. (Cross point setting mode)
5) Set S2 to F (or E). (Mode to set source of Outputs 1-12 with S3)
6) Open S1-1. (Loading of test conditions)
7) Set S3 to 1. (Source 1 selected)
   Source 1 is set for Outputs 1-12. Supply of signal to Input 1 causes adjustment of output levels for output channels 1-12.
8) Set S2 to 0. (Mode to set the source of monitor array with S3)
   In this case, set S3 to 1 to adjust the output level of monitor array.
9) Set F2 to F (or E). Use Output 1 as a measuring output.
   Carry out CMR adjustment while designating inputs 1-12 for each channel.
10) Upon completion of adjustment, reset setting switches. Turn OFF power supply of press the reset button S11.

• TR-56 Board

S1 through S13; the switches changed 600Ω (Setting before shipment; set to all 600Ω)
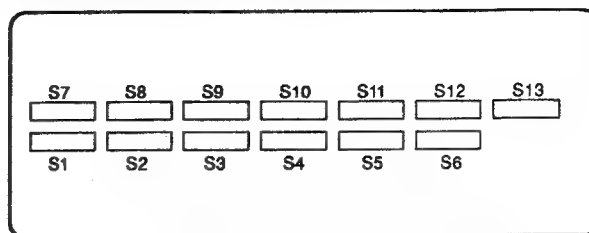
TR-56 Board (Component Side)

After the RED button on the BKS-R1210, select the 1-12 buttons. The INPUT of the buttons is output to all OUTPUT 1-12 and the MONI connectors.
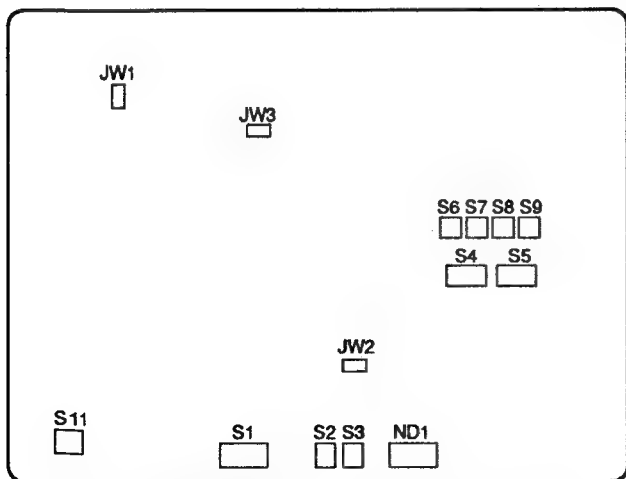
CPU-68 Board (Component Side)

4-1. LEVEL ADJUSTMENT

[Setting before adjustment]

• Setting of the audio signal generator

Set the audio signal generator as follows:

Output impedance ———— 600Ω
Floating / GND ———————— FLOATING
Frequency ——————————— 1kHz

[Connections]

Preparations	Specifications	Adjustments
• Connect the output of the audio signal generator to Input 1 of CH1 and the audio level meter to Output 1 of CH1, as shown above. • Set S2 of CPU-68 board to F and S3 to 1.	• Adjust so that the audio level meter reads the level of +4± 0.1dBm (1.228 ± 0.014V).	⊘ RV1 / AA-48 board (CH1 side)

Connect the audio level meter to Output 2-12, MONI without changing setting of S2 and S3 and carry out similar adjustment with each VR.

AA-48 Board (A Side)

OUTPUT	Volume
2	RV1 / AA-48-2
3	RV1 / AA-48-3
4	RV1 / AA-48-4
5	RV1 / AA-48-5
6	RV1 / AA-48-6
7	RV1 / AA-48-7
8	RV1 / AA-48-8
9	RV1 / AA-48-9
10	RV1 / AA-48-10
11	RV1 / AA-48-11
12	RV1 / AA-48-12
MONI	RV1 / AA-48-MONI

※ Carry out adjustment of CH2 in the same

4-2. CMR (COMMON MODE REJECTION) ADJUSTMENT

[Setting before adjustment]

• Setting of the audio signal generator

Set the audio signal generator as follows:

Output impedance	————	600Ω
Floating / GND	————	FLOATING
Frequency	————	60Hz
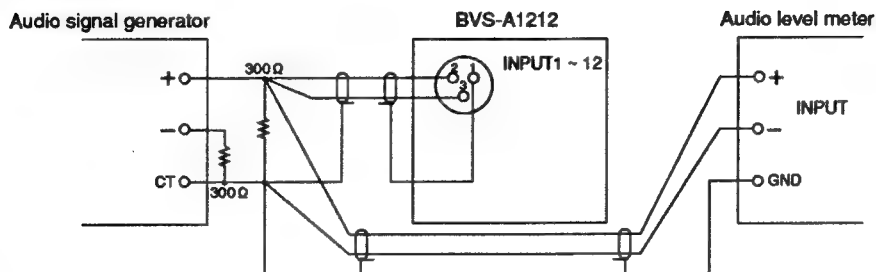
Connect as shown above and set the audio signal generator output so that the audio level meter reads +15dBm.

[Connections]

Preparations	Specifications	Adjustments
• Connect the output of the audio signal generator to Input 1 of CH1 and the audio level meter to Output 1 of CH1, as shown above. • Connect S2 of CPU-68 board to F and S3 to 1.	• Set the reading of audio level meter to monimum. 　AUDIO IN : 60Hz + 15dBm 　AUDIO OUT : - 75dBm	❷ RV1 / ASW-17 board (CH1 side)

Connect the signal generator to INPUT2-12 and carry out similar adjustment while changing the cross point (reading of S3). Adjust each VR according to the channel.
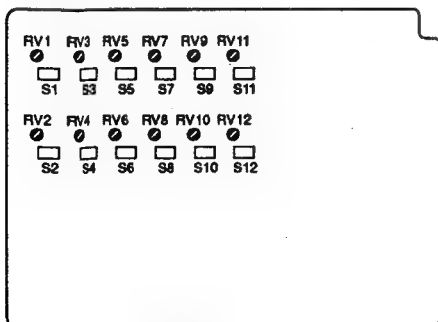
ASW-17Board (Component Side)

INPUT	Volume
2	RV2
3	RV3
4	RV4
5	RV5
6	RV6
7	RV7
8	RV8
9	RV9
10	RV10
11	RV11
12	RV12

※Carry out adjustment of CH2 in the same

SECTION 5
BLOCK DIAGRAM

OVERALL
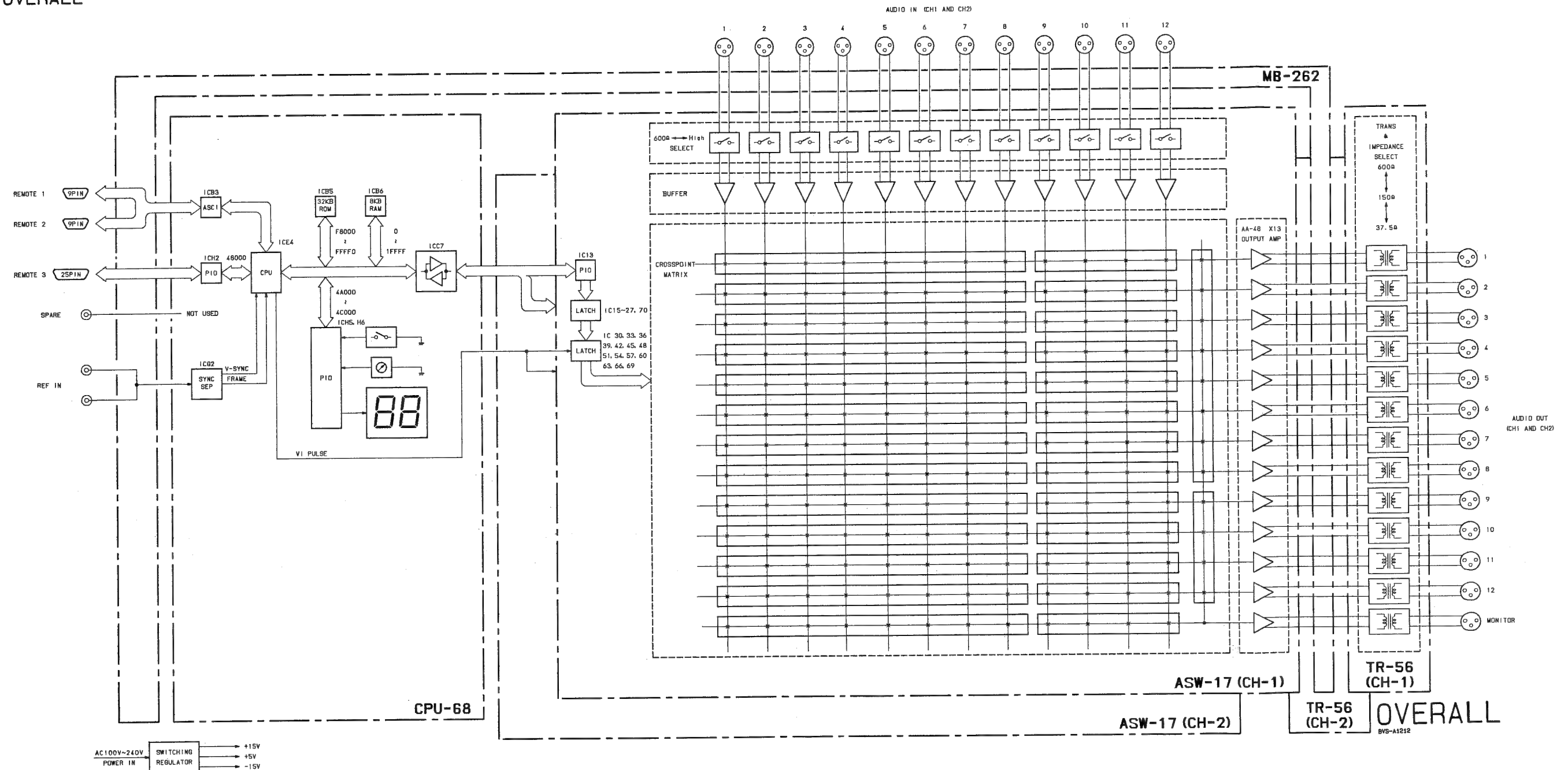
SECTION 6
SEMICONDUCTOR ELECTRODES

ここに記載されているIC，トランジスタ，ダイオードは，それぞれの機能を等価的に表わしたものです。したがって互換性を表わすものではありません。（互換性のない型名が併記されている事もあります。）部品の交換をする時は，SPARE PARTS の章を参照して下さい。

ICs, transistors and diodes whoses functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

IC

AM26LS30PC (ADVANCED MICRO DEVICES)
LINE DRIVER
— TOP VIEW —
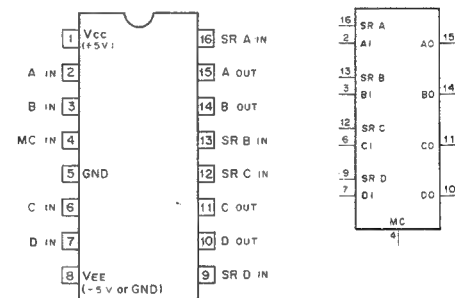
MC ; MODE CONTROL
SR ; SLEW RATE CONTROL
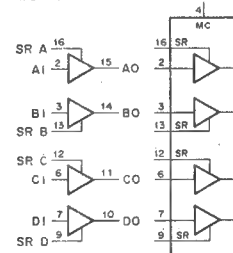
MC=1   MC=0
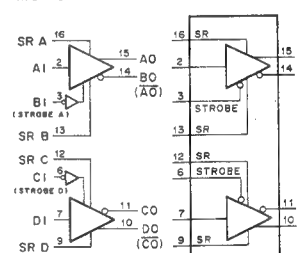
INPUTS		OUTPUTS
MC	A TO D	A TO D
1	0	0
1	1	1

	INPUTS		OUTPUTS	
MC	STROBE	A & D	A & D	B & C
0	0	0	0	1
0	0	1	1	0
0	1	X	HI-Z	HI-Z

0 ; LOW LEVEL   X ; DON'T CARE
1 ; HIGH LEVEL   HI-Z ; HIGH IMPEDANCE

AM26LS32PC (ADVANCED MICRO DEVICES)
HIGH SPEED DIFFERENTIAL LINE RECEIVER
— TOP VIEW —

FUNCTION TABLE
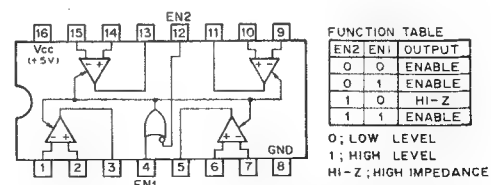
EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

	SENSE	INPUT VOLT
LS32	±200mV	±7V
LS33	±500mV	±15V

等価回路はICメーカーの Data Book に従いました。

The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

CXD1095Q (SONY) FLAT PACKAGE
C·MOS I/O PORT EXPANDER
— TOP VIEW —

PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1			NC	17	O	O	PC6	33			NC	49	O	O	PX0
2			NC	18	O	O	PC7	34			NC	50	O	O	PX1
3	O	O	PB1	19			NC	35	O	O	D3	51			NC
4	O	O	PB2	20	O	O	PD0	36	O	O	D4	52	O	O	PX2
5	O	O	PB3	21	O	O	PD1	37	O	O	D5	53	O	O	PX3
6	O	O	PB4	22	O	O	PD2	38	O	O	D6	54	O	O	PA0
7	O	O	PB5	23	O	O	PD3	39	O	O	D7	55	O	O	PA1
8	O	O	PB6	24	O	O	PD4	40	O		CLR	56	O	O	PA2
9	O	O	PB7	25			GND	41	O		RST	57			GND
10			GND	26	O		VDD(+5V)	42			GND	58			VDD(+5V)
11	O	O	PC0	27	O	O	PD5	43	O		WR	59	O	O	PA3
12	O	O	PC1	28	O	O	PD6	44	O		RD	60	O	O	PA4
13	O	O	PC2	29	O	O	PD7	45	O		CS	61	O	O	PA5
14	O	O	PC3	30			D0	46	O		A0	62	O	O	PA6
15	O	O	PC4	31			D1	47	O		A1	63	O	O	PA7
16	O	O	PC5	32			D2	48	O		A2	64	O	O	PB0

CS	RD	WR	A2	A1	A0	MODE
O	O	1	O	O	O	PORT A → DATA BUS
O	O	1	O	O	1	PORT B → DATA BUS
O	O	1	O	1	O	PORT C → DATA BUS
O	O	1	O	1	1	PORT D → DATA BUS
O	O	1	1	O	O	PORT X → DATA BUS
O	O	1	1	O	1	———
O	O	1	1	1	O	———
O	O	1	1	1	1	———
O	1	O	O	O	O	DATA BUS → PORT A
O	1	O	O	O	1	DATA BUS → PORT B
O	1	O	O	1	O	DATA BUS → PORT C
O	1	O	O	1	1	DATA BUS → PORT D
O	1	O	1	O	O	DATA BUS → PORT X
O	1	O	1	O	1	———
O	1	O	1	1	O	DATA BUS → CTL REG.1
O	1	O	1	1	1	DATA BUS → CTL REG.2
1	X	X	X	X	X	DATA BUS ; HI-Z

O ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

D0–D7 ; DATA BUS INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ STROBE INPUT
WR ; WRITE STROBE INPUT
A0–A2 ; ADDRESS INPUT
RST ; RESET INPUT
CLR ; CLEAR INPUT
PA0–PA7 ; PORT A INPUTS/OUTPUTS
PB0–PB7 ; PORT B INPUTS/OUTPUTS
PC0–PC7 ; PORT C INPUTS/OUTPUTS
PD0–PD7 ; PORT D INPUTS/OUTPUTS
PX0–PX3 ; PORT X INPUTS/OUTPUTS

CXK5864P-10 (SONY) (ACCESS TIME = 100nS)
C·MOS 64K (8Kx8-BIT) STATIC RAM
— TOP VIEW —

A0–A12 ; ADDRESS INPUTS
CE1,CE2 ; CHIP ENABLE 1,2 INPUTS
D0–D7 ; DATA INPUTS/OUTPUTS
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT
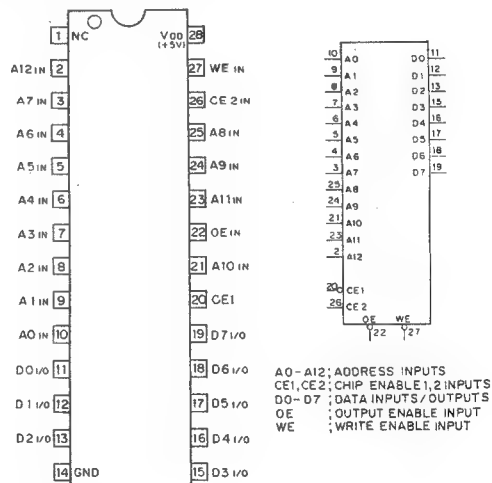
MODE SELECTION

CONTROL INPUTS				MODE
CE1	CE2	OE	WE	
1	X	X	X	NO CHANGE
X	O	X	X	NO CHANGE
O	1	1	1	DISABLE OUTPUT
O	1	O	1	READ
O	1	X	O	WRITE

O ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

LM1881M (NS) FLAT PACKAGE
VIDEO SYNC SEPARATOR
– TOP VIEW –

COMPOSITE SYNC OUT	1	8	Vcc (+5 to +12V)
COMPOSITE VIDEO IN	2	7	ODD/EVEN OUT
VERTICAL SYNC OUT	3	6	RSET
GND	4	5	BURST/BACK OUT

COMPOSITE VIDEO — COMPOSITE SYNC 1
VERTICAL SYNC 3
ODD/EVEN 7
RSET 6 — BURST/BACK 5

TIMING CHART

COMPOSITE VIDEO IN
COMPOSITE SYNC OUT
VERTICAL SYNC OUT
BURST OUT
ODD/EVEN OUT

MBM27C256A-20CZ (FUJITSU) (ACCESS TIME=200nS)
C-MOS 256K (32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS
– TOP VIEW –

VPP 1 — VDD 28 (+5V)
A12 IN 2 — 27 A14 IN
A7 IN 3 — 26 A13 IN
A6 IN 4 — 25 A8 IN
A5 IN 5 — 24 A9 IN
A4 IN 6 — 23 A11 IN
A3 IN 7 — 22 OE IN
A2 IN 8 — 21 A10 IN
A1 IN 9 — 20 CE
A0 IN 10 — 19 D7 OUT
D0 OUT 11 — 18 D6 OUT
D1 OUT 12 — 17 D5 OUT
D2 OUT 13 — 16 D4 OUT
GND 14 — 15 D3 OUT

A0 – A14 : ADDRESS INPUT
CE : CHIP ENABLE INPUT
D0 – D7 : DATA OUTPUT
OE : OUTPUT ENABLE INPUT
VPP : PROGRAM POWER SUPPLY

DG508ACJ (SILICONIX)
C-MOS 8-CHANNEL/DUAL 4-CHANNEL ANALOG MULTIPLEXERS
– TOP VIEW –

A0 1 — 16 A1
EN 2 — 15 A2
Vss (-15V) 3 — 14 GND
S1 4 — 13 VDD (+15V)
S2 5 — 12 S5
S3 6 — 11 S6
S4 7 — 10 S7
D 8 — 9 S8

A2	A1	A0	EN	ON SWITCH
X	X	X	0	NONE
0	0	0	1	1
0	0	1	1	2
0	1	0	1	3
0	1	1	1	4
1	0	0	1	5
1	0	1	1	6
1	1	0	1	7
1	1	1	1	8

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

DECODE LOGIC
A2 A1 A0 EN

An	CE	OE	VPP	Dn	FUNCTION
An	0	0	+5V	Dout	READ
An	0	1	+5V	HI-Z	OUTPUT DISABLE
X	1	X	+5V	HI-Z	STANDBY
An	0	1	+21V	DIN	PGM
An	0	0	+21V	Dout	PGM VERIFY
X	1	1	+21V	HI-Z	PGM INH

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

X DECODER — 262,144-BIT CELL MATRIX
Y DECODER — COLUMN GATE
CE,OE LOGIC — OUTPUT BUFF
D0 – D7

NE5534P (TI)
OPERATIONAL AMPLIFIER
– TOP VIEW –

BALANCE 1 — 8 COMPENSATE/BALANCE
2 — 7 Vcc
3 — 6
VEE 4 — 5 COMPENSATE

NJM4565MD (JRC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIER
– TOP VIEW –
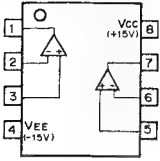
SN74HC00NS (TI) FLAT PACKAGE
C-MOS 2-INPUT NAND GATE
– TOP VIEW –

$$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL
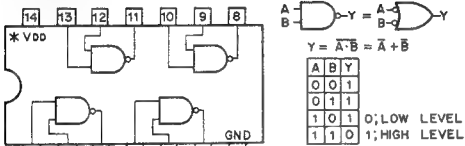
* VDD AC, HC ; +2 to +6V
HCT ; +5V

SN74HC04NS (TI) FLAT PACKAGE
SN74HCU04NS (TI) FLAT PACKAGE
C-MOS INVERTER
– TOP VIEW –

$$Y = \overline{A}$$

A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL
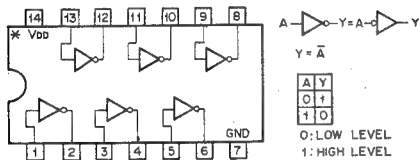
* VDD · HC, HCU ; +2 to +6V
HCT ; +5V

SN74HC138NS (TI) (V$_{DD}$ = +2 to +6V) FLAT PACKAGE
C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
– TOP VIEW –

INPUTS					OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

EN = $\overline{EN1} \cdot \overline{EN2} \cdot EN3$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC139NS (TI) (V$_{DD}$ = +2 to +6V)
C-MOS 1-OF-4 DECODER/DEMULTIPLEXER
– TOP VIEW –

INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC245NS (TI) (V$_{DD}$ = +2 to +6V) FLAT PACKAGE
C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –

EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

SN74HC393NS (TI) FLAT PACKAGE
C-MOS 4-BIT BINARY COUNTER
– TOP VIEW –

COUNT SEQUENCE				
COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

RESET/COUNT FUNCTION				
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

0 ; LOW LEVEL
1 ; HIGH LEVEL

SN74HC4514NT (TI) FLAT PACKAGE
C-MOS 4-LINE TO 16-LINE DECODER/DEMULTIPLEXER WITH ADDRESS LATCHES
– TOP VIEW –

LE (LATCH ENABLE)IN [1] VDD (+2 to +6V) [24]
A (DATA A) IN [2] [23] INH (INHIBIT) IN
B (DATA B) IN [3] [22] D (DATA D) IN
Y7 OUT [4] [21] C (DATA C) IN
Y6 OUT [5] [20] Y10 OUT
Y5 OUT [6] [19] Y11 OUT
Y4 OUT [7] [18] Y8 OUT
Y3 OUT [8] [17] Y9 OUT
Y1 OUT [9] [16] Y14 OUT
Y2 OUT [10] [15] Y15 OUT
Y0 OUT [11] [14] Y12 OUT
GND [12] [13] Y13 OUT

INH	LATCHED DATA				SELECTED OUTPUTS										
	D	C	B	A	Y15	Y14	Y13	Y12	----	Y4	Y3	Y2	Y1	Y0
0	0	0	0	0	0	0	0	0	----	0	0	0	0	1
0	0	0	0	1	0	0	0	0	----	0	0	0	1	0
0	0	0	1	0	0	0	0	0	----	0	0	1	0	0
0	0	0	1	1	0	0	0	0	----	0	1	0	0	0
0	0	1	0	0	0	0	0	0	----	1	0	0	0	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮		⋮	⋮	⋮	⋮	⋮
0	1	1	0	0	0	0	0	1	----	0	0	0	0	0
0	1	1	0	1	0	0	1	0	----	0	0	0	0	0
0	1	1	1	0	0	1	0	0	----	0	0	0	0	0
0	1	1	1	1	1	0	0	0	----	0	0	0	0	0
1	X	X	X	X	ALL OUTPUTS = 0									

SN74HC541 NS (TI) FLAT PACKAGE
C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –

G2 [20] Y1 [19] Y2 [18] Y3 [17] Y4 [16] Y5 [15] Y6 [14] Y7 [13] Y8 [12] [11]
*VDD
[1] G1 [2] A1 [3] A2 [4] A3 [5] A4 [6] A5 [7] A6 [8] A7 [9] A8 [10] GND

G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

* VDD HC ; +2 to +6V
HCT ; +5V

SN74HC75NS (TI) FLAT PACKAGE
C-MOS 4-BIT D-TYPE LATCH
– TOP VIEW –

1Q̄ [1] [16] 1Q
1D [2] [15] 2Q
2D [3] [14] 2Q̄
G3.4 [4] [13] G1.2
VDD (+2 to +6V) [5] [12] GND
3D [6] [11] 3Q̄
4D [7] [10] 3Q
4Q̄ [8] [9] 4Q

INPUTS		OUTPUTS		FUNCTION
D	G	Q	Q̄	
0	1	0	1	–
1	1	1	0	–
X	0	Qn	Q̄n	LATCH

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC74HC123AF (TOSHIBA) FLAT PACKAGE
TC74HC123F (TOSHIBA) FLAT PACKAGE
C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
– TOP VIEW –

A [1] VDD (+2 to +6V) [16] VDD
B [2] [15] R
RD̄ [3] [14] C
Q̄ [4] [13] Q
Q [5] [12] Q̄
[6] [11] RD̄
[7] [10] B
VDD [8] GND [9] A

INPUT			OUTPUT	
RD̄	A	B	Q	Q̄
0	X	X	0	1
1	1	X	0	1
1	X	0	0	1
1	0	⌐	⎍	⎍
1	⌐	1	⎍	⎍
⌐	0	1	⎍	⎍

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH = 0.46CR

TL7705CP-B (TI)
POWER VOLTAGE SUPERVISOR
– TOP VIEW –

V-REF OUT [1] Vcc (+3.5 to +18V) [8]
RD IN [2] [7] SENSE IN
CT [3] [6] RESET OUT
GND [4] [5] RESET OUT

REFERENCE VOLTAGE

6-5

uPD70320L-8 (NEC)
C-MOS 16-BIT MICROPROCESSOR
– TOP VIEW –

PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	O	IOSTB	29	O	A8	57	I/O	P26/HLDAK
2	O	MREQ	30	O	A9	58	I/O	P27/HLDRQ
3	I	EA	31	O	A10	59	I/O	P10/NMI
4	I/O	P00	32	O	A11	60	I/O	P11/INTP0
5	I/O	P01	33	O	A12	61	I/O	P12/INTP1
6	I/O	P02	34	O	A13	62	I/O	P13/INTP2/INTAK
7	I/O	P03	35	O	A14	63	I/O	P14/INT/POLL
8	I/O	P04	36	O	A15	64	I/O	P15/TOUT
9	—	IC	37	O	A16	65	I/O	P16/SCKO
10	I/O	P05	38	O	A17	66	I/O	P17/READY
11	I/O	P06	39	O	A18	67	I	PT0
12	I/O	P07/CLKOUT	40	O	A19	68	I	PT1
13	I/O	D0	41	I	RXD0	69	I	PT2
14	I/O	D1	42	—	GND	70	I	PT3
15	I/O	D2	43	I/O	CTS0	71	I	PT4
16	I/O	D3	44	O	TXD0	72	I	PT5
17	I/O	D4	45	I	RXD1	73	I	PT6
18	I/O	D5	46	I	CTS1	74	I	PT7
19	I/O	D6	47	O	TXD1	75	—	IC
20	I/O	D7	48	I/O	P20/DMARQ0	76	I	VTH
21	O	A0	49	—	IC	77	—	GND
22	O	A1	50	I	VDD(+5V)	78	—	X1
23	O	A2	51	I/O	P21/DMAAK0	79	—	X2
24	O	A3	52	I/O	P22/TC0	80	I	VDD(+5V)
25	O	A4	53	—	IC	81	I	RESET
26	O	A5	54	I/O	P23/DMARQ1	82	O	REFRQ
27	O	A6	55	I/O	P24/DMAAK1	83	O	R/W
28	O	A7	56	I/O	P25/TC1	84	O	MSTB

Signal	Description
A0 – A19	: ADDRESS BUS OUTPUTS
CLKOUT	: SYSTEM CLOCK OUTPUT
CTS0, CTS1	: CLEAR TO SEND INPUT/OUTPUT
D0 – D7	: DATA BUS INPUTS/OUTPUTS
DMAAK0, DMAAK1	: DMA ACKNOWLEDGE CH0, CH1 OUTPUTS
DMARQ0, DMARQ1	: DMA REQUEST CH0, CH1 INPUTS
EA	: ROM-LESS MODE SET INPUT
HLDAK	: HOLD ACKNOWLEDGE OUTPUT
HLDRQ	: HOLD REQUEST INPUT
IC	: INTERNAL CONNECT
INTP0, INTP1	: INTERRUPT REQUEST INPUTS
INTP2	: INTERRUPT REQUEST INPUT
INTAK	: INTERRUPT ACKNOWLEDGE OUTPUT
IOSTB	: I/O READ/WRITE STROBE OUTPUT
MREQ	: MEMORY REQUEST OUTPUT
MSTB	: MEMORY READ/WRITE STROBE OUTPUT
NMI	: NON-MASKABLE INTERRUPT INPUT
P00 – P07	: PORT 0 INPUTS/OUTPUTS
P10 – P17	: PORT 1 INPUTS/OUTPUTS
P20 – P27	: PORT 2 INPUTS/OUTPUTS
PT0 – PT7	: PORT 0 INPUTS
INT/POLL	: INTERRUPT REQUEST INPUT
READY	: READY INPUT
REFRQ	: REFRESH REQUEST OUTPUT
RESET	: RESET INPUT
R/W	: READ AND WRITE CYCLE OUTPUT
RXD0, RXD1	: SERIAL DATA INPUTS
SCKO	: SERIAL CLOCK OUTPUT
TC0, TC1	: DMA (CH0/CH1) ENDING OUTPUTS
TOUT	: TIMER OUTPUT
TXD0, TXD1	: SERIAL DATA OUTPUTS
VTH	: REF. V FOR COMPARATOR INPUT
X1, X2	: CRYSTAL 1, 2

Pin/package diagram and internal block diagram of the uPD70320L-8 microprocessor showing PROGRAMMABLE DMA CONTROLLER, SERIAL INTERFACE, BAUD RATE GENERATOR, PROGRAMMABLE INTERRUPT CONTROLLER, ALU, PSW, PC, TA/TB/TC, INTERNAL RAM 256 BYTE (GR, MACRO SERVICE CHANNEL), INSTRUCTION DECODER MICRO SEQUENSER MICRO ROM, QUEUE, STAGING LATCH, ADM, BUS CONTROL LOGIC, 16-BIT TIMER, TIME BASE COUNTER, PORT (0/1/2), PORT WITH COMPARATOR, CG.

uPD72001C (NEC)
C-MOS ADVANCED MULTI-PROTOCOL SERIAL CONTROLLER
— TOP VIEW —

Pin assignments (left package):

Pin	Signal
1	DCDA IN
2	D7 IN/OUT
3	D6 IN/OUT
4	D5 IN/OUT
5	D4 IN/OUT
6	D3 IN/OUT
7	D2 IN/OUT
8	D1 IN/OUT
9	D0 IN/OUT
10	GND
11	WR IN
12	RD IN
13	C/D̄ IN
14	B/Ā IN
15	PRO OUT
16	PRI IN
17	INTAK IN
18	INT OUT
19	CTSB IN
20	DCDB IN
40	CTSA IN
39	RxDA IN
38	XI1A/STRxCA IN
37	XI2A/SYNCA IN/OUT
36	TRxCA IN/OUT
35	TxDA OUT
34	RTSA OUT
33	DRQRxA OUT
32	RESET IN
31	CK IN
30	VDD (+5V)
29	DRQTxA IN/OUT
28	DTRA/DRQTxB OUT
27	DTRB/DRQRxB OUT
26	RTSB OUT
25	TxDB OUT
24	XI2B/SYNCB IN/OUT
23	XI1B/STRxCB IN
22	RxDB IN
21	TRxCB IN/OUT

Block diagram signals: RxDA, CTSA, DCDA, XI1A/STRxCA, RxDB, CTSB, DCDB, XI1B/STRxCB, φ, RD, WR, C/D̄, B/Ā, RESET, INTAK, PRI — TxDA, XI2A/SYNCA, TRxCA, RTSA, TxDB, XI2B/SYNCB, TRxCB, RTSB, D0–D7, DRQRxA, DRQTxA, DTRB/DRQRxB, DTRA/DRQTxB, INT, PRO

CLOCK/STANDBY CONTROL — CK 31
DATA BUS BUFFER — D7–D0
READ/WRITE CONTROL — RD 12, WR 11, C/D̄ 13, B/Ā 14, RESET 32
DMA CONTROL — DRQRxA 33, DRQTxA 29, DTRB/DRQRxB 27, DTRA/DRQTxB 28
INTERRUPT CONTROL — INT 18, INTAK 17, PRI 16, PRO 15
CHANNEL B
CHANNEL A
INTERNAL BUS
CR0–CR5 CR10–CR15, CONTROL SIGNAL, BRG–H, L, SR12–SR15, CR8, CR9 SR8, SR9, SR0, Rx BUFF, CR6 CR7, Tx BUFFER
0–3 4–7
SR1–SR4 SR10, SR11
TxRx CLOCK — BRG, DPLL
RxCLK, TxCLK — TxRx CLOCK CONTROL
OSC
TxRx CONTROL
TRANSMITTER
RECEIVER
RTSA 34, TRxCB 36, XI1A/STRxCA 38, XI2A/SYNCA 37, DCDA 1, CTSA 40, RxDA 39, TxDA 35

INPUTS				FUNCTION	
WR	RD	B/Ā	C/D̄		
0	1	0	0	CHANNEL A	WRITE (TxD)
0	1	1	0	CHANNEL B	
1	0	0	0	CHANNEL A	READ (RxD)
1	0	1	0	CHANNEL B	
0	1	0	1	CHANNEL A	WRITE (CONTROL REGISTER)
0	1	1	1	CHANNEL B	
1	0	0	1	CHANNEL A	READ (STATUS REGISTER)
1	0	1	1	CHANNEL B	
1	1	X	X	HIGH-IMPEDANCE	
0	0	X	X	INHIBIT	

0: LOW LEVEL
1: HIGH LEVEL
X: DON'T CARE.

CK : SYSTEM CLOCK INPUT
WR : WRITE ENABLE INPUT
RD : READ ENABLE INPUT
B/Ā : CHANNEL B/Ā SELECT INPUT
C/D̄ : CONTROL/DATA SELECT INPUT
D0–D7 : DATA BUS INPUTS/OUTPUTS
INT : INTERRUPT OUTPUT
INTAK : INTERRUPT ACKNOWLEDGE INPUT
PRI : PRIORITY INPUT
DRQTxA: DMA REQUEST TxA OUTPUT
DRQRxA: DMA REQUEST RxA OUTPUT
PRO : PRIORITY OUTPUT

DTRA/DRQTxB: DATA TERMINAL READY A/DMA REQUEST TxB OUTPUT
DTRB/DRQRxB: DATA TERMINAL READY B/DMA REQUEST RxB OUTPUT
CTSA, CTSB : CLEAR TO SEND A/B INPUT
DCDA, DCDB : DATA CARRIER DETECT A/B INPUT
RTSA, RTSB : REQUEST TO SEND A/B OUTPUT
RESET : RESET INPUT

6-7

TRANSISTER
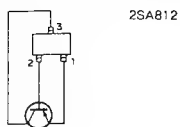
2SA812
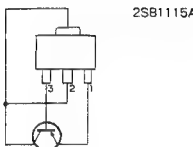
2SB1115A
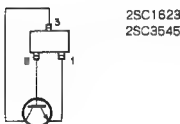
2SC1623
2SC3545
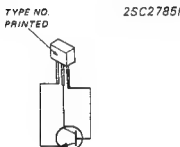
TYPE NO.
PRINTED   2SC2785F
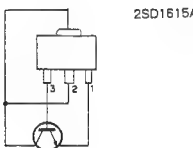
2SD1615A
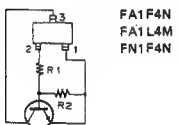
FA1F4N
FA1L4M
FN1F4N

R1
R2

DIODE
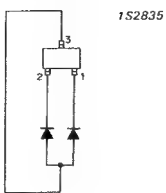
1S2835
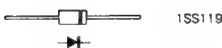
1SS119
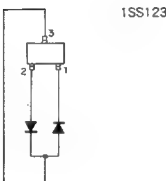
1SS123
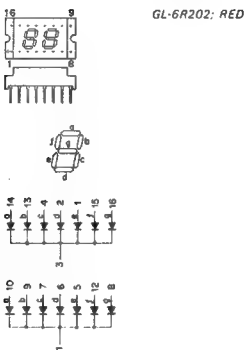
GL-6R202; RED
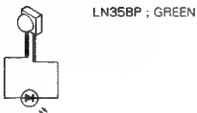
LN358P ; GREEN
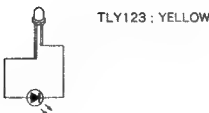
TLY123 ; YELLOW

SECTION 7
SCHEMATIC DIAGRAMS

CIRCUIT FUNCTION OF THE SCHEMATIC DIAGRAMS

The circuit information is provided below.

CIRCUIT BOARD	CIRCUIT FUNCTION
AA-48	AUDIO AMPLIFIER BOARD
ASW-17	AUDIO MATRIX BOARD
CPU-68	CPU BOARD
LE-76	LED BOARD
MB-262	MOTHER BOARD
TR-56	TRANS BOARD
SW-354	SWITCH BOARD (BKS-R1210)

CPU-68; CPU BOARD

NOTE:

MARK	ADDRESS	CHANGE INFORMATION	SERIAL NO.
*	G-2	C17 100PF→680PF C102 2200PF ADD	J: 20021- E: 10138-
	F-2	C16 150PF→680PF	
	F-4	C38 6PF→100PF C40 10PF→120PF R56 33K→3.3K R57 68K→6.8K ICF2 TC74HC123F→TC74HC123AF	
*1	E-4	R58 100K→68K R59 33K→15K ICF3 TC74HC123F→TC74HC123AF	J: 20041- E: 10161-
	F-4	R150 100K→47K R153 100K→47K	
	I-4	ICF7 TC74HC123F→TC74HC123AF	

CPU-68
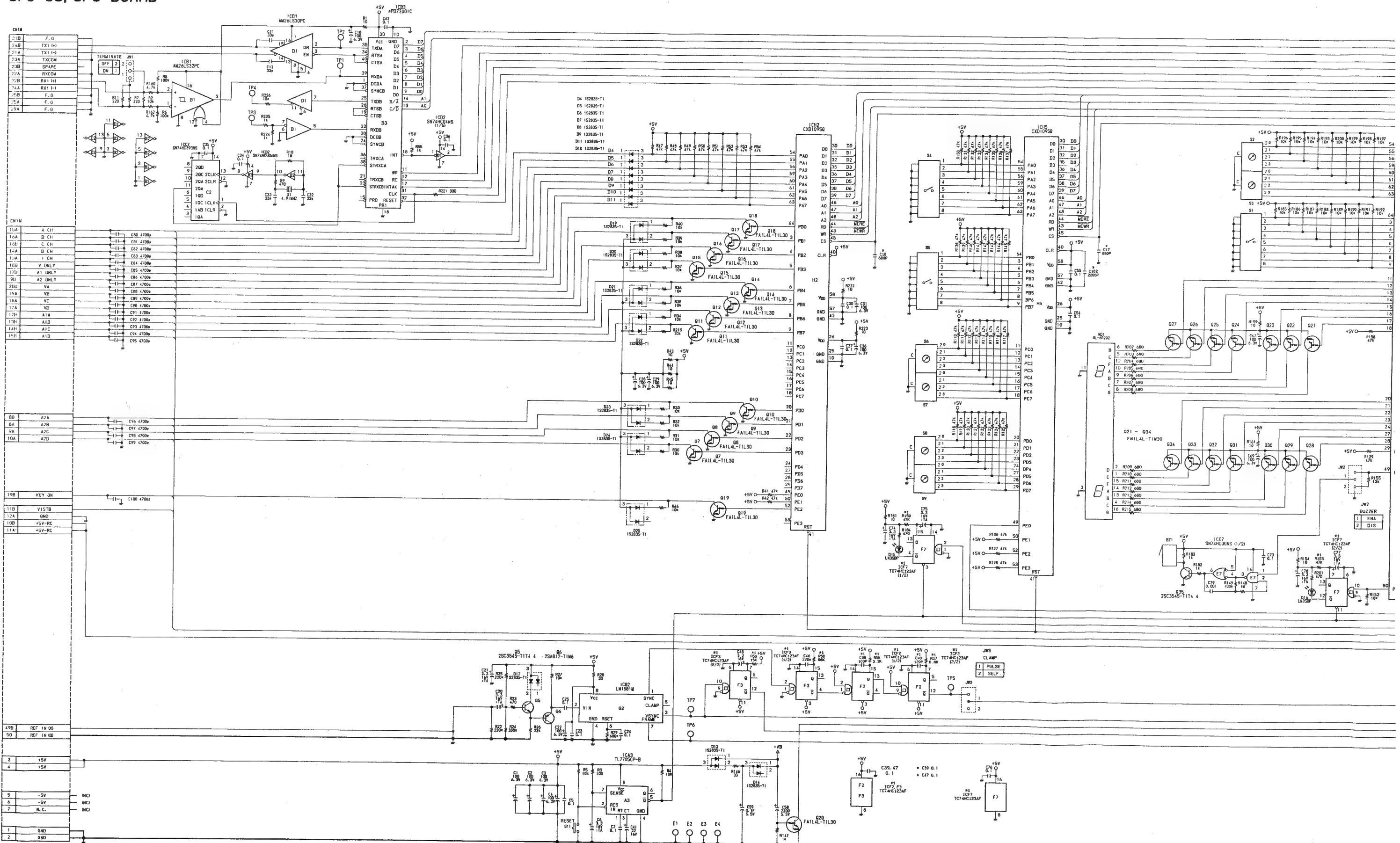
ASW-17; AUDIO MATRIX BOARD
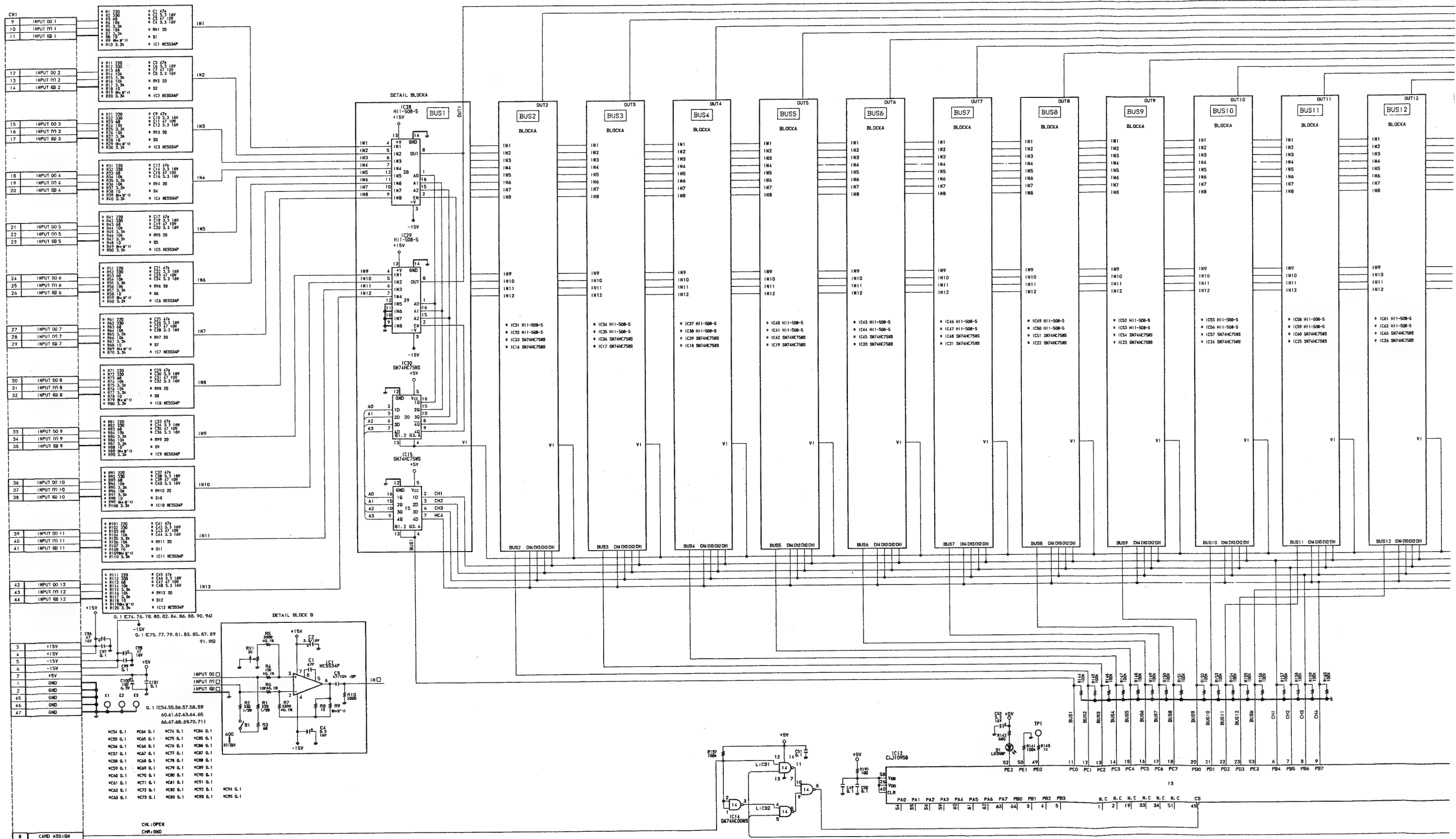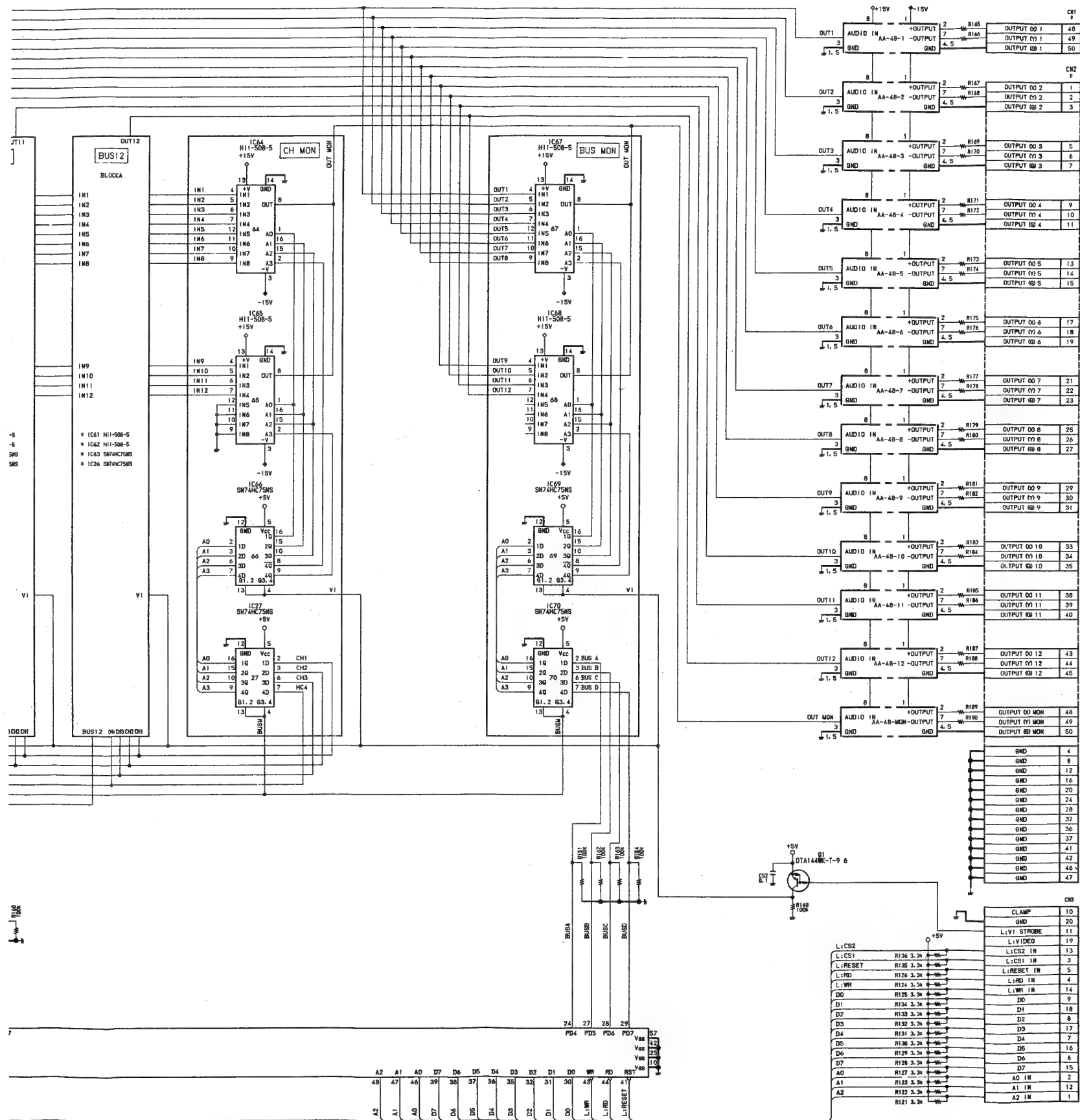
ASW-17

1-630-037-12 (1)
BVS-A1212

7-9
7-10
7-11 Leere Seiten
7-12

7-15   7-16

AA-48; AUDIO AMPLIFIER BOARD

1

2

3

4

5

IC1
NJM4565MD

Q1
2SA812

Q2
2SA812

Q5
2SC1623

Q7
2SD1615A

CN2
+Vcc 8

CN2
TP1 6

CN1
5 GND

CN1
3 AUDIO IN

CN1
1 GND

C1 47 16V

C9 100p

R1 330

R42 220k

R2 100

RV1 1k

* R23 330

C7 1500p

R3 470

R4 2.2k

R5 270k

R6 2.2k

C2 47 16V

Q1

Q2

Q3

Q4

R7 220

R10 220

R11 10k

D1 1SS123

R12 47k

Q5

Q6

R8 4.7k

Q7

Q8

R13 10

R14 10

R15 10 R16 10 R17 10

R18 10 R19 10 R20 10

R9 4.7k

R21 10 R22 10

C3 47 16V C4 47 16V

C5 47 16V C6 47 16V

CN2
C GND 5

CN2
+ OUTPUT 2

CN2
TP2 3

Q3
2SC1623

Q4
2SC1623

Q6
2SA812

Q8
2SB1115A

Q9
2SA812

Q10
2SA812

Q13
2SC1623

Q15
2SD1615A

CN2
GND 4

R24 2.2k

C10 100p

R27 2.2k

R28 270k

R29 2.2k

C8 1500p

R26 470

R34 10k

R35 10k

D2 1SS123

R25 2.2k

R30 220

R33 220

Q9

Q10

Q11

Q12

R31 4.7k

Q13

Q14

Q15

Q16

R32 4.7k

R36 10 R37 10 R38 10

R39 10 R40 10 R41 10

CN2
- OUTPUT 7

CN2
-Vcc 1

Q11
2SC1623

Q12
2SC1623

Q14
2SA812

Q16
2SB1115A

⊘ RV1 . OUTPUT LEVEL

AA-48

NOTE:

MARK	ADDRESS	CHANGE INFORMATION	SERIAL NO.
※	B-2	R23 6.8K → 330	J: 20006- E: 10116-

A | B | C | D

TR-56; TRANS BOARD

CN1M

1	OUT 1 IN (X)
2	OUT 1 IN (Y)
3	OUT 1 IN (G)

BLOCK A
* T1   * TH1
* S1   * R1

OUT 1 OUT (X)	6
OUT 1 OUT (Y)	5
OUT 1 OUT (G)	4

CN2M

1	OUT 2 IN (X)
2	OUT 2 IN (Y)
3	OUT 2 IN (G)

BLOCK A
* T2   * TH2
* S2   * R2

OUT 2 OUT (X)	6
OUT 2 OUT (Y)	5
OUT 2 OUT (G)	4

CN3M

1	OUT 3 IN (X)
2	OUT 3 IN (Y)
3	OUT 3 IN (G)

BLOCK A
* T3   * TH3
* S3   * R3

OUT 3 OUT (X)	6
OUT 3 OUT (Y)	5
OUT 3 OUT (G)	4

CN4M

1	OUT 4 IN (X)
2	OUT 4 IN (Y)
3	OUT 4 IN (G)

BLOCK A
* T4   * TH4
* S4   * R4

OUT 4 OUT (X)	6
OUT 4 OUT (Y)	5
OUT 4 OUT (G)	4

CN5M

1	OUT 5 IN (X)
2	OUT 5 IN (Y)
3	OUT 5 IN (G)

BLOCK A
* T5   * TH5
* S5   * R5

OUT 5 OUT (X)	6
OUT 5 OUT (Y)	5
OUT 5 OUT (G)	4

CN6M

1	OUT 6 IN (X)
2	OUT 6 IN (Y)
3	OUT 6 IN (G)

BLOCK A
* T6   * TH6
* S6   * R6

OUT 6 OUT (X)	6
OUT 6 OUT (Y)	5
OUT 6 OUT (G)	4

CN7M

1	OUT 7 IN (X)
2	OUT 7 IN (Y)
3	OUT 7 IN (G)

BLOCK A
* T7   * TH7
* S7   * R7

OUT 7 OUT (X)	6
OUT 7 OUT (Y)	5
OUT 7 OUT (G)	4

CN8M

1	OUT 8 IN (X)
2	OUT 8 IN (Y)
3	OUT 8 IN (G)

BLOCK A
* T8   * TH8
* S8   * R8

OUT 8 OUT (X)	6
OUT 8 OUT (Y)	5
OUT 8 OUT (G)	4

CN9M

1	OUT 9 IN (X)
2	OUT 9 IN (Y)
3	OUT 9 IN (G)

BLOCK A
* T9   * TH9
* S9   * R9

OUT 9 OUT (X)	6
OUT 9 OUT (Y)	5
OUT 9 OUT (G)	4

CN10M

1	OUT 10 IN (X)
2	OUT 10 IN (Y)
3	OUT 10 IN (G)

BLOCK A
* T10   * TH10
* S10   * R10

OUT 10 OUT (X)	6
OUT 10 OUT (Y)	5
OUT 10 OUT (G)	4

CN11M

1	OUT 11 IN (X)
2	OUT 11 IN (Y)
3	OUT 11 IN (G)

BLOCK A
* T11   * TH11
* S11   * R11

OUT 11 OUT (X)	6
OUT 11 OUT (Y)	5
OUT 11 OUT (G)	4

CN12M

1	OUT 12 IN (X)
2	OUT 12 IN (Y)
3	OUT 12 IN (G)

BLOCK A
* T12   * TH12
* S12   * R12

OUT 12 OUT (X)	6
OUT 12 OUT (Y)	5
OUT 12 OUT (G)	4

CN13M

1	OUT MON IN (X)
2	OUT MON IN (Y)
3	OUT MON IN (G)

BLOCK A
* T13   * TH13
* S13   * R13

OUT MON OUT (X)	6
OUT MON OUT (Y)	5
OUT MON OUT (G)	4

T □ 3
TH □ 10
R □ 15

S □
600Ω
150Ω
37.5Ω

OUT □ IN (X)
OUT □ IN (Y)
OUT □ IN (G)

OUT □ OUT (X)
OUT □ OUT (Y)
OUT □ OUT (G)

* A1

TR-56
1-630-041-11 (1)
BVS-A1212

A   B   C   D

MB-262; MOTHER BOARD

FL1 / FL2 / FL3

CG CB	CG CB	CB CG
PSG B	PSG B	B PSG

CN7M

1	-15V
2	+15V
3	GND1
4	GND2
5	GND2
6	+5V
7	+5V

CN8M

1	+5V
2	NC.
3	GND

CN9M

| 1 | -V OUT |
| 2 | +V OUT |

R1 47 1W
C1 100 16V

CN2F

1	NC.
2	NC.
3	NC.
4	NC.
5	NC.
6	NC.
7	NC.
8	NC.
9	NC.
10	NC.
11	NC.
12	NC.
13	NC.
14	NC.
15	NC.
16	NC.
17	NC.
18	NC.
19	NC.
20	NC.
21	NC.
22	NC.
23	NC.
24	NC.
25	NC.
26	NC.
27	NC.
28	NC.
29	NC.
30	NC.
31	NC.
32	NC.
33	NC.
34	NC.
35	NC.
36	NC.
37	NC.
38	NC.
39	NC.
40	NC.
41	NC.
42	NC.
43	NC.
44	NC.
45	NC.
46	NC.
47	NC.
48	GND
49	NC.
50	NC.

CN12M

1	A2B
2	A2C
3	A2D
4	+5V-RC
5	GND
6	D CH SEL
7	D CH SEL
8	A CH SEL
9	B CH SEL
10	VD
11	VC
12	VB

CN1F

A		B
GND	1	GND
GND	2	GND
+5.5V	3	+5.5V
+5.5V	4	+5.5V
NC.	5	NC.
NC.	6	NC.
NC.	7	NC.
A2B	8	A2A
A2C	9	A2 ONLY
A2D	10	+5V-RC
+5V-RC	11	VI
GND	12	A1A
D CH SEL	13	A1B
D CH SEL	14	A1C
A CH SEL	15	A1D
B CH SEL	16	C CH SEL
VD	17	A1 ONLY
VC	18	V ONLY
VB	19	KEY ON
NC.	20	VA
RS422T-	21	FRAME GND
RECEIVE COM	22	RS422R+
TRANSMIT COM	23	SPARE
RS422R-	24	RS422T+
NC.	25	FRAME GND
NC.	26	NC.
NC.	27	NC.
NC.	28	NC.
NC.	29	NC.
NC.	30	NC.
NC.	31	NC.
NC.	32	NC.
NC.	33	NC.
NC.	34	NC.
NC.	35	NC.
NC.	36	NC.
NC.	37	NC.
NC.	38	NC.
NC.	39	NC.
NC.	40	NC.
NC.	41	NC.
NC.	42	NC.
NC.	43	NC.
NC.	44	NC.
NC.	45	NC.
CBUS (G)	46	CBUS (G)
NC.	47	CBUS (X)
GND	48	GND
NC.	49	REF IN (X)
REF IN (G)	50	REF IN (G)

CN11M

A2A	1
A2 ONLY	2
+5V-RC	3
VI	4
A1A	5
A1B	6
A1C	7
A1D	8
C CH SEL	9
A1 ONLY	10
V ONLY	11
KEY ON	12
VA	13
NC.	14

CN13M

FRAME GND	1
RS422T-	2
RS422R+	3
RECEIVE COM	4
SPARE	5
TRANSMIT COM	6
RS422T+	7
RS422R-	8
FRAME GND	9

CN35M

CBUS (X)	1
NC.	2
CBUS (G)	3

CN10M

REF IN (X)	1
REF IN (G)	2
REF THRU (X)	3
REF THRU (G)	4

CN6F

1	OUTPUT2 (X)
2	OUTPUT2 (Y)
3	OUTPUT2 (G)
4	GND
5	OUTPUT3 (X)
6	OUTPUT3 (Y)
7	OUTPUT3 (G)
8	GND
9	OUTPUT4 (X)
10	OUTPUT4 (Y)
11	OUTPUT4 (G)
12	GND
13	OUTPUT5 (X)
14	OUTPUT5 (Y)
15	OUTPUT5 (G)
16	GND
17	OUTPUT6 (X)
18	OUTPUT6 (Y)
19	OUTPUT6 (G)
20	GND
21	OUTPUT7 (X)
22	OUTPUT7 (Y)
23	OUTPUT7 (G)
24	GND
25	OUTPUT8 (X)
26	OUTPUT8 (Y)
27	OUTPUT8 (G)
28	GND
29	OUTPUT9 (X)
30	OUTPUT9 (Y)
31	OUTPUT9 (G)
32	GND
33	OUTPUT10 (X)
34	OUTPUT10 (Y)
35	OUTPUT10 (G)
36	GND
37	GND
38	OUTPUT11 (X)
39	OUTPUT11 (Y)
40	OUTPUT11 (G)
41	GND
42	GND
43	OUTPUT12 (X)
44	OUTPUT12 (Y)
45	OUTPUT12 (G)
46	GND
47	GND
48	OUTPUT MON (X)
49	OUTPUT MON (Y)
50	OUTPUT MON (G)

CN21M (2/2)

OUTPUT2 (X)	4
OUTPUT2 (Y)	5
OUTPUT2 (G)	6

CN22M

OUTPUT3 (X)	1
OUTPUT3 (Y)	2
OUTPUT3 (G)	3

CN23M

OUTPUT4 (X)	4
OUTPUT4 (Y)	5
OUTPUT4 (G)	6
OUTPUT5 (X)	1
OUTPUT5 (Y)	2
OUTPUT5 (G)	3
OUTPUT6 (X)	4
OUTPUT6 (Y)	5
OUTPUT6 (G)	6

CN24M

OUTPUT7 (X)	1
OUTPUT7 (Y)	2
OUTPUT7 (G)	3
OUTPUT8 (X)	4
OUTPUT8 (Y)	5
OUTPUT8 (G)	6

CN25M

OUTPUT9 (X)	1
OUTPUT9 (Y)	2
OUTPUT9 (G)	3
OUTPUT10 (X)	4
OUTPUT10 (Y)	5
OUTPUT10 (G)	6

CN26M

OUTPUT11 (X)	1
OUTPUT11 (Y)	2
OUTPUT11 (G)	3
OUTPUT12 (X)	4
OUTPUT12 (Y)	5
OUTPUT12 (G)	6

CN27M

OUTPUT COM (X)	1
OUTPUT COM (Y)	2
OUTPUT COM (G)	3
NC.	4
NC.	5
NC.	6

CN5F

1	GND
2	GND
3	+15V
4	+15V
5	-15V
6	-15V
7	+5.5V
8	GND
9	INPUT1 (X)
10	INPUT1 (Y)
11	INPUT1 (G)
12	INPUT2 (X)
13	INPUT2 (Y)
14	INPUT2 (G)
15	INPUT3 (X)
16	INPUT3 (Y)
17	INPUT3 (G)
18	INPUT4 (X)
19	INPUT4 (Y)
20	INPUT4 (G)
21	INPUT5 (X)
22	INPUT5 (Y)
23	INPUT5 (G)
24	INPUT6 (X)
25	INPUT6 (Y)
26	INPUT6 (G)
27	INPUT7 (X)
28	INPUT7 (Y)
29	INPUT7 (G)
30	INPUT8 (X)
31	INPUT8 (Y)
32	INPUT8 (G)
33	INPUT9 (X)
34	INPUT9 (Y)
35	INPUT9 (G)
36	INPUT10 (X)
37	INPUT10 (Y)
38	INPUT10 (G)
39	INPUT11 (X)
40	INPUT11 (Y)
41	INPUT11 (G)
42	INPUT12 (X)
43	INPUT12 (Y)
44	INPUT12 (G)
45	GND
46	GND
47	GND
48	OUTPUT1 (X)
49	OUTPUT1 (Y)
50	OUTPUT1 (G)

* A1   * A6   * A11   * A16   * A21
* A2   * A7   * A12   * A17   * A22
* A3   * A8   * A13   * A18   * A23
* A4   * A9   * A14   * A19   * A24
* A5   * A10 * A15   * A20   * A25

7-25   7-26

A   B   C   D   E   F   G   H

CN5F

Pin	Signal
1	GND
2	GND
3	+15V
4	+15V
5	-15V
6	-15V
7	+5.5V
8	GND
9	INPUT1 (X)
10	INPUT1 (Y)
11	INPUT1 (G)
12	INPUT2 (X)
13	INPUT2 (Y)
14	INPUT2 (G)
15	INPUT3 (X)
16	INPUT3 (Y)
17	INPUT3 (G)
18	INPUT4 (X)
19	INPUT4 (Y)
20	INPUT4 (G)
21	INPUT5 (X)
22	INPUT5 (Y)
23	INPUT5 (G)
24	INPUT6 (X)
25	INPUT6 (Y)
26	INPUT6 (G)
27	INPUT7 (X)
28	INPUT7 (Y)
29	INPUT7 (G)
30	INPUT8 (X)
31	INPUT8 (Y)
32	INPUT8 (G)
33	INPUT9 (X)
34	INPUT9 (Y)
35	INPUT9 (G)
36	INPUT10 (X)
37	INPUT10 (Y)
38	INPUT10 (G)
39	INPUT11 (X)
40	INPUT11 (Y)
41	INPUT11 (G)
42	INPUT12 (X)
43	INPUT12 (Y)
44	INPUT12 (G)
45	GND
46	GND
47	GND
48	OUTPUT1 (X)
49	OUTPUT1 (Y)
50	OUTPUT1 (G)

CN15M / CN16M / CN17M (INPUT, pins 1–12 each)

Signal	Pin
INPUT1 (X)	1
INPUT1 (Y)	2
INPUT1 (G)	3
INPUT2 (X)	4
INPUT2 (Y)	5
INPUT2 (G)	6
INPUT3 (X)	7
INPUT3 (Y)	8
INPUT3 (G)	9
INPUT4 (X)	10
INPUT4 (Y)	11
INPUT4 (G)	12
INPUT5 (X)	1
INPUT5 (Y)	2
INPUT5 (G)	3
INPUT6 (X)	4
INPUT6 (Y)	5
INPUT6 (G)	6
INPUT7 (X)	7
INPUT7 (Y)	8
INPUT7 (G)	9
INPUT8 (X)	10
INPUT8 (Y)	11
INPUT8 (G)	12
INPUT9 (X)	1
INPUT9 (Y)	2
INPUT9 (G)	3
INPUT10 (X)	4
INPUT10 (Y)	5
INPUT10 (G)	6
INPUT11 (X)	7
INPUT11 (Y)	8
INPUT11 (G)	9
INPUT12 (X)	10
INPUT12 (Y)	11
INPUT12 (G)	12

CN18M / CN19M / CN20M (INPUT, pins 1–12 each)

Pin	Signal
1	INPUT1 (X)
2	INPUT1 (Y)
3	INPUT1 (G)
4	INPUT2 (X)
5	INPUT2 (Y)
6	INPUT2 (G)
7	INPUT3 (X)
8	INPUT3 (Y)
9	INPUT3 (G)
10	INPUT4 (X)
11	INPUT4 (Y)
12	INPUT4 (G)
1	INPUT5 (X)
2	INPUT5 (Y)
3	INPUT5 (G)
4	INPUT6 (X)
5	INPUT6 (Y)
6	INPUT6 (G)
7	INPUT7 (X)
8	INPUT7 (Y)
9	INPUT7 (G)
10	INPUT8 (X)
11	INPUT8 (Y)
12	INPUT8 (G)
1	INPUT9 (X)
2	INPUT9 (Y)
3	INPUT9 (G)
4	INPUT10 (X)
5	INPUT10 (Y)
6	INPUT10 (G)
7	INPUT11 (X)
8	INPUT11 (Y)
9	INPUT11 (G)
10	INPUT12 (X)
11	INPUT12 (Y)
12	INPUT12 (G)

CN3F

Signal	Pin
GND	1
GND	2
+15V	3
+15V	4
-15V	5
-15V	6
+5.5V	7
NC.	8
INPUT1 (X)	9
INPUT1 (Y)	10
INPUT1 (G)	11
INPUT2 (X)	12
INPUT2 (Y)	13
INPUT2 (G)	14
INPUT3 (X)	15
INPUT3 (Y)	16
INPUT3 (G)	17
INPUT4 (X)	18
INPUT4 (Y)	19
INPUT4 (G)	20
INPUT5 (X)	21
INPUT5 (Y)	22
INPUT5 (G)	23
INPUT6 (X)	24
INPUT6 (Y)	25
INPUT6 (G)	26
INPUT7 (X)	27
INPUT7 (Y)	28
INPUT7 (G)	29
INPUT8 (X)	30
INPUT8 (Y)	31
INPUT8 (G)	32
INPUT9 (X)	33
INPUT9 (Y)	34
INPUT9 (G)	35
INPUT10 (X)	36
INPUT10 (Y)	37
INPUT10 (G)	38
INPUT11 (X)	39
INPUT11 (Y)	40
INPUT11 (G)	41
INPUT12 (X)	42
INPUT12 (Y)	43
INPUT12 (G)	44
GND	45
GND	46
GND	47
OUTPUT1 (X)	48
OUTPUT1 (Y)	49
OUTPUT1 (G)	50

CN28M (2/2) / CN29M / CN30M / CN31M / CN32M / CN33M / CN34M (OUTPUT side)

Conn.	Pin	Signal
CN28M (2/2)	4	OUTPUT2 (X)
	5	OUTPUT2 (Y)
	6	OUTPUT2 (G)
CN29M	1	OUTPUT3 (X)
	2	OUTPUT3 (Y)
	3	OUTPUT3 (G)
	4	OUTPUT4 (X)
	5	OUTPUT4 (Y)
	6	OUTPUT4 (G)
CN30M	1	OUTPUT5 (X)
	2	OUTPUT5 (Y)
	3	OUTPUT5 (G)
	4	OUTPUT6 (X)
	5	OUTPUT6 (Y)
	6	OUTPUT6 (G)
CN31M	1	OUTPUT7 (X)
	2	OUTPUT7 (Y)
	3	OUTPUT7 (G)
	4	OUTPUT8 (X)
	5	OUTPUT8 (Y)
	6	OUTPUT8 (G)
CN32M	1	OUTPUT9 (X)
	2	OUTPUT9 (Y)
	3	OUTPUT9 (G)
	4	OUTPUT10 (X)
	5	OUTPUT10 (Y)
	6	OUTPUT10 (G)
CN33M	1	OUTPUT11 (X)
	2	OUTPUT11 (Y)
	3	OUTPUT11 (G)
	4	OUTPUT12 (X)
	5	OUTPUT12 (Y)
	6	OUTPUT12 (G)
CN34M	1	OUTPUT MON (X)
	2	OUTPUT MON (Y)
	3	OUTPUT MON (G)
	4	NC.
	5	NC.
	6	NC.

CN4F

Signal	Pin
OUTPUT2 (X)	1
OUTPUT2 (Y)	2
OUTPUT2 (G)	3
GND	4
OUTPUT3 (X)	5
OUTPUT3 (Y)	6
OUTPUT3 (G)	7
GND	8
OUTPUT4 (X)	9
OUTPUT4 (Y)	10
OUTPUT4 (G)	11
GND	12
OUTPUT5 (X)	13
OUTPUT5 (Y)	14
OUTPUT5 (G)	15
GND	16
OUTPUT6 (X)	17
OUTPUT6 (Y)	18
OUTPUT6 (G)	19
GND	20
OUTPUT7 (X)	21
OUTPUT7 (Y)	22
OUTPUT7 (G)	23
GND	24
OUTPUT8 (X)	25
OUTPUT8 (Y)	26
OUTPUT8 (G)	27
GND	28
OUTPUT9 (X)	29
OUTPUT9 (Y)	30
OUTPUT9 (G)	31
GND	32
OUTPUT10 (X)	33
OUTPUT10 (Y)	34
OUTPUT10 (G)	35
GND	36
GND	37
OUTPUT11 (X)	38
OUTPUT11 (Y)	39
OUTPUT11 (G)	40
GND	41
GND	42
OUTPUT12 (X)	43
OUTPUT12 (Y)	44
OUTPUT12 (G)	45
GND	46
GND	47
OUTPUT MON (X)	48
OUTPUT MON (Y)	49
OUTPUT MON (G)	50

CN21M (1/2)

Signal	Pin
OUTPUT1 (X)	1
OUTPUT1 (Y)	2
OUTPUT1 (G)	3

CN28M (1/2)

Pin	Signal
1	OUTPUT1 (X)
2	OUTPUT1 (Y)
3	OUTPUT1 (G)

MB-262

1-630-042-11 (1)
BVS-A1212

(handwritten: 7-17 bis 7-25 keine Seiten)

CPU-68

ASW-17 (FOR CH 1)

ASW-17 (FOR CH 2)

(E) FEMALE

(U) MALE

INPUT CH 1

INPUT CH 2

INPUT1 (G)		
INPUT1 (Y)		
INPUT1 (B)		
INPUT2 (G)		
INPUT2 (Y)		
INPUT2 (B)		
INPUT3 (G)		
INPUT3 (Y)		
INPUT3 (B)		
INPUT4 (G)		
INPUT4 (Y)		
INPUT4 (B)		
INPUT5 (G)		
INPUT5 (Y)		
INPUT5 (B)		
INPUT6 (G)		
INPUT6 (Y)		
INPUT6 (B)		
INPUT7 (G)		
INPUT7 (Y)		
INPUT7 (B)		
INPUT8 (G)		
INPUT8 (Y)		
INPUT8 (B)		
INPUT9 (G)		
INPUT9 (Y)		
INPUT9 (B)		
INPUT10 (G)		
INPUT10 (Y)		
INPUT10 (B)		
INPUT11 (G)		
INPUT11 (Y)		
INPUT11 (B)		
INPUT12 (G)		
INPUT12 (Y)		
INPUT12 (B)		

REMOTE 3
CN1, 201
(FEMALE)

EXT VIEW

REMOTE 1
CN202, 203
(FEMALE)

EXT VIEW

				A2A
A2A				A2A ONLY
A2A ONLY				+5V-A
+5V-A				V1STB
V1STB				A1A
A1A				A1B
A1B				A1C
A1C				A1D
A1D				C CH SEL
C CH SEL				A1 ONLY
A1 ONLY				V ONLY
V ONLY				KEY ON
KEY ON				VA
VA				NC

				A2B
A2B				A2C
A2C				A2D
A2D				+5V-V
+5V-V				GND
GND				I CH SEL
I CH SEL				D CH SEL
D CH SEL				A CH SEL
B CH SEL				B CH SEL
VD				VD
VC				VC
VB				VB

(FLAT CABLE)

FRAME GND		FRAME GND		FRAME GND
RS422T-		RS422T-		RS422T-
RS422R+		RS422R+		RS422R+
RECEIVE COM		RECEIVE COM		RECEIVE COM
SPARE		SPARE		SPARE
TRANSMIT COM		TRANSMIT COM		TRANSMIT COM
RS422T+		RS422T+		RS422T+
RS422R-		RS422R-		RS422R-
FRAME GND		FRAME GND		FRAME GND

REF IN

		REF IN (G)
		REF IN (Y)
		REF THRU (G)
		REF THRU (B)

SPARE

		CBUS (G)
		NC.
		CBUS (B)

+5V				+5V
N.C.				N.C.
GND				GND

LE-76

MOTOR FAN

		-V OUT
		+V OUT

AC INLET
CN101

AC SW
S101

	-15V				-15V
AC 2	+15V				+15V
NC	GND 1				GND 1
AC 1	GND 2				GND 2
	GND 2				GND 2
	+5V				+5V
	+5V				+5V

SWITCHING REGULATOR

MB-263

		OUTPUT1 (G)
		OUTPUT1 (Y)
		OUTPUT1 (B)
		OUTPUT2 (G)
		OUTPUT2 (Y)
		OUTPUT2 (B)
		OUTPUT3 (G)
		OUTPUT3 (Y)
		OUTPUT3 (B)
		OUTPUT4 (G)
		OUTPUT4 (Y)
		OUTPUT4 (B)
		OUTPUT5 (G)
		OUTPUT5 (Y)
		OUTPUT5 (B)
		OUTPUT6 (G)
		OUTPUT6 (Y)
		OUTPUT6 (B)
		OUTPUT7 (G)
		OUTPUT7 (Y)
		OUTPUT7 (B)
		OUTPUT8 (G)
		OUTPUT8 (Y)
		OUTPUT8 (B)
		OUTPUT9 (G)
		OUTPUT9 (Y)
		OUTPUT9 (B)
		OUTPUT10 (G)
		OUTPUT10 (Y)
		OUTPUT10 (B)
		OUTPUT11 (G)
		OUTPUT11 (Y)
		OUTPUT11 (B)
		OUTPUT12 (G)
		OUTPUT12 (Y)
		OUTPUT12 (B)
		OUTPUT COM (G)
		OUTPUT COM (Y)
		OUTPUT COM (B)
		NC.
		NC.
		NC.

		OUTPUT1 (G)
		OUTPUT1 (Y)
		OUTPUT1 (B)
		OUTPUT2 (G)
		OUTPUT2 (Y)
		OUTPUT2 (B)
		OUTPUT3 (G)
		OUTPUT3 (Y)
		OUTPUT3 (B)
		OUTPUT4 (G)
		OUTPUT4 (Y)
		OUTPUT4 (B)
		OUTPUT5 (G)
		OUTPUT5 (Y)
		OUTPUT5 (B)
		OUTPUT6 (G)
		OUTPUT6 (Y)
		OUTPUT6 (B)
		OUTPUT7 (G)
		OUTPUT7 (Y)
		OUTPUT7 (B)
		OUTPUT8 (G)
		OUTPUT8 (Y)
		OUTPUT8 (B)
		OUTPUT9 (G)
		OUTPUT9 (Y)
		OUTPUT9 (B)
		OUTPUT10 (G)
		OUTPUT10 (Y)
		OUTPUT10 (B)
		OUTPUT11 (G)
		OUTPUT11 (Y)
		OUTPUT11 (B)
		OUTPUT12 (G)
		OUTPUT12 (Y)
		OUTPUT12 (B)
		OUTPUT COM (G)
		OUTPUT COM (Y)
		OUTPUT COM (B)
		NC.
		NC.
		NC.

ASW-17 (FOR CH 1)

ASW-17 (FOR CH 2)

TR-56 (FOR CH1)

TR-56 (FOR CH2)

MB-263

LE-76

MOTOR FAN

Refer to Schematic Diagram { CPU-68 BOARD *1 / ASW-17 BOARD *2 / MB-263 BOARD *3 }

SVS-A1212

FRAME

7-29
7-30
7-31

7-32

7-33

E   F   G   H   I   J   K   L

BKS-R1210
SW-354; SWITCH BOARD

SW-354

1-630-049-12 (1)
BVS-V1201
BKS-R1210

抵抗は全て 1/6W, 金属被膜 (RN)

7-34
7-35
7-36

leere
Seiten

SECTION 8
PRINTED WIRING BOARDS

CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-11)

BZ1	F - 6	Q20	A - 6
		Q21	H - 6
CN1	A - 1	Q22	H - 6
CN2	G - 1	Q23	H - 6
CN3	C - 7	Q24	H - 6
		Q25	H - 7
D4	H - 3	Q26	H - 7
D5	H - 3	Q27	H - 7
D6	H - 3	Q28	H - 6
D7	H - 3	Q29	H - 6
D8	H - 3	Q30	H - 6
D9	H - 3	Q31	H - 6
D10	H - 3	Q32	H - 6
D11	H - 3	Q33	H - 7
D13	A - 6	Q34	H - 7
D14	A - 6	Q35	D - 7
D15	D - 7		
D16	H - 7	S1	E - 7
D17	G - 1	S2	G - 7
D18	H - 7	S3	G - 7
D19	H - 1	S4	H - 5
D20	H - 1	S5	H - 5
D21	H - 1	S6	H - 4
D22	H - 1	S7	H - 4
D23	H - 1	S8	H - 4
D24	H - 1	S9	H - 4
D25	H - 1	S11	A - 7
E1	A - 1	TP1	B - 3
E2	H - 1	TP2	B - 3
E3	A - 7	TP3	D - 3
E4	H - 7	TP4	D - 3
		TP5	F - 2
ICA3	A - 3	TP6	G - 2
		TP7	G - 2
ICB1	B - 1	TP8	D - 4
ICB2	B - 2		
ICB3	B - 3	X1	B - 2
ICB4	B - 4	X2	E - 4
ICB5	B - 5		
ICB6	B - 6		
ICB7	B - 7		
ICC1	C - 1		
ICC2	C - 2		
ICC4	C - 4		
ICC7	C - 7		
ICD2	D - 2		
ICD6	D - 6		
ICD7	D - 7		
ICE4	E - 4		
ICE6	E - 6		
ICF2	F - 2		
ICF3	F - 3		
ICF7	F - 7		
ICG2	G - 2		
ICH2	H - 2		
ICH5	H - 5		
ICH6	H - 6		
JW1	C - 1		
JW2	G - 7		
JW3	E - 3		
ND1	H - 7		
Q5	F - 1		
Q6	F - 2		
Q7	H - 1		
Q8	H - 1		
Q9	H - 1		
Q10	H - 1		
Q11	H - 2		
Q12	H - 2		
Q13	H - 2		
Q14	H - 2		
Q15	H - 2		
Q16	H - 2		
Q17	H - 2		
Q18	H - 2		
Q19	H - 3		

CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-11)

BZ1	F-6	Q20	A-6
		Q21	H-6
CN1	A-1	Q22	H-6
CN2	G-1	Q23	H-6
CN3	C-7	Q24	H-6
		Q25	H-7
D4	H-3	Q26	H-7
D5	H-3	Q27	H-7
D6	H-3	Q28	H-6
D7	H-3	Q29	H-6
D8	H-3	Q30	H-6
D9	H-3	Q31	H-6
D10	H-3	Q32	H-6
D11	H-3	Q33	H-7
D13	A-6	Q34	H-7
D14	A-6	Q35	D-7
D15	D-7		
D16	H-7	S1	E-7
D17	G-1	S2	G-7
D18	H-7	S3	G-7
D19	H-1	S4	H-5
D20	H-1	S5	H-4
D21	H-1	S6	H-4
D22	H-1	S7	H-4
D23	H-1	S8	H-4
D24	H-1	S9	H-4
D25	H-1	S11	A-7
E1	A-1	TP1	B-3
E2	H-1	TP2	B-3
E3	A-7	TP3	D-3
E4	H-7	TP4	D-3
		TP5	F-2
ICA3	A-3	TP6	G-2
		TP7	G-2
ICB1	B-1	TP8	D-4
ICB2	B-2		
ICB3	B-3	X1	B-2
ICB4	B-4	X2	E-4
ICB5	B-5		
ICB6	B-6		
ICB7	B-7		
ICC1	C-1		
ICC2	C-2		
ICC4	C-4		
ICC7	C-7		
ICD2	D-2		
ICD6	D-6		
ICD7	D-7		
ICE4	E-4		
ICE6	E-6		
ICF2	F-2		
ICF3	F-3		
ICF7	F-7		
JCG2	G-2		
ICH2	H-2		
ICH5	H-5		
ICH6	H-6		
JW1	C-1		
JW2	G-7		
JW3	E-3		
ND1	H-7		
Q5	F-1		
Q6	F-2		
Q7	H-1		
Q8	H-1		
Q9	H-1		
Q10	H-1		
Q11	H-2		
Q12	H-2		
Q13	H-2		
Q14	H-2		
Q15	H-2		
Q16	H-2		
Q17	H-2		
Q18	H-2		
Q19	H-3		

SONY MADE IN JAPAN CPU-68

1-630-040-11

CPU-68 -COMPONENT SIDE-

1-630-040-11 (1)
BVS-A1212
BVS-V1212

CPU-68; CPU BOARD

BVS-A1212／V1212

CPU-68 (1-630-040-15)

BZ1	F - 6	ND1	H - 7
CN1M	A - 1	Q5	F - 1
CN2M	G - 1	Q6	F - 2
CN3M	C - 8	Q7	H - 1
		Q8	H - 1
D4	J - 3	Q9	J - 1
D5	J - 3	Q10	J - 1
D6	K - 3	Q11	J - 2
D7	K - 3	Q12	J - 2
D8	K - 3	Q13	J - 2
D9	K - 3	Q14	J - 2
D10	K - 3	Q15	J - 2
D11	K - 3	Q16	K - 2
D13	A - 6	Q17	K - 2
D14	A - 6	Q18	K - 2
D15	D - 8	Q19	J - 3
D16	H - 8	Q20	A - 6
D17	G - 1	Q21	J - 6
D18	K - 8	Q22	J - 6
D19	K - 1	Q23	J - 6
D20	K - 1	Q24	J - 6
D21	J - 1	Q25	J - 7
D22	J - 1	Q26	J - 7
D23	J - 1	Q27	J - 7
D24	H - 1	Q28	K - 6
D25	K - 1	Q29	K - 6
		Q30	K - 6
E1	A - 1	Q31	K - 6
E2	K - 1	Q32	K - 6
E3	A - 8	Q33	K - 7
E4	J - 8	Q34	K - 7
		Q35	F - 6
FL1	B - 8	S1	E - 8
FL2	B - 8	S2	G - 8
FL3	B - 8	S3	G - 8
FL4	B - 8	S4	J - 5
FL5	B - 8	S5	K - 5
FL6	B - 8	S6	J - 4
FL7	B - 8	S7	J - 4
FL8	C - 8	S8	K - 4
FL9	C - 8	S9	K - 4
FL10	C - 8	S11	A - 8
FL11	C - 8		
FL12	C - 8	TP1	B - 3
FL13	C - 8	TP2	B - 3
FL14	C - 8	TP3	D - 3
FL15	C - 8	TP4	D - 3
		TP5	F - 2
ICA3	A - 3	TP6	G - 2
		TP7	G - 2
ICB1	B - 1	TP8	D - 4
ICB2	B - 2	TP9	B - 7
ICB3	B - 3		
ICB4	B - 4		
ICB5	B - 5	X1	B - 2
ICB6	B - 6	X2	E - 4
ICB7	B - 7		
ICC2	C - 2		
ICC4	C - 4		
ICC7	C - 7		
ICD1	D - 1		
ICD2	D - 2		
ICD6	D - 6		
ICD7	D - 7		
ICE4	E - 4		
ICE6	E - 6		
ICE7	E - 7		
ICF2	F - 2		
ICF3	F - 3		
ICF7	F - 7		
ICG2	G - 2		
ICH2	H - 2		
ICH5	H - 5		
ICH6	H - 6		
JW1	C - 1		
JW2	G - 7		
JW3	E - 3		

CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-13)

BZ1	F - 6	ND1	H - 7
CN1M	A - 1	Q5	F - 1
CN2M	G - 1	Q6	F - 2
CN3M	C - 8	Q7	H - 1
		Q8	H - 1
D4	J - 3	Q9	J - 1
D5	J - 3	Q10	J - 1
D6	K - 3	Q11	J - 2
D7	K - 3	Q12	J - 2
D8	K - 3	Q13	J - 2
D9	K - 3	Q14	J - 2
D10	K - 3	Q15	J - 2
D11	K - 3	Q16	K - 2
D13	A - 6	Q17	K - 2
D14	A - 6	Q18	K - 2
D15	D - 8	Q19	J - 3
D16	H - 8	Q20	A - 6
D17	G - 1	Q21	J - 6
D18	K - 8	Q22	J - 6
D19	K - 1	Q23	J - 6
D20	K - 1	Q24	J - 6
D21	J - 1	Q25	J - 7
D22	J - 1	Q26	J - 7
D23	J - 1	Q27	J - 7
D24	H - 1	Q28	K - 6
D25	K - 1	Q29	K - 6
		Q30	K - 6
E1	A - 1	Q31	K - 6
E2	K - 1	Q32	K - 6
E3	A - 8	Q33	K - 7
E4	J - 8	Q34	K - 7
		Q35	F - 6
FL1	B - 8	S1	E - 8
FL2	B - 8	S2	G - 8
FL3	B - 8	S3	G - 8
FL4	B - 8	S4	J - 5
FL5	B - 8	S5	K - 5
FL6	B - 8	S6	J - 4
FL7	B - 8	S7	J - 4
FL8	C - 8	S8	K - 4
FL9	C - 8	S9	K - 4
FL10	C - 8	S11	A - 8
FL11	C - 8		
FL12	C - 8		
FL13	C - 8	TP1	B - 3
FL14	C - 8	TP2	B - 3
FL15	C - 8	TP3	D - 3
		TP4	D - 3
ICA3	A - 3	TP5	F - 2
		TP6	G - 2
ICB1	B - 1	TP7	G - 2
ICB2	B - 2	TP8	D - 4
ICB3	B - 3	TP9	B - 7
ICB4	B - 4		
ICB5	B - 5	X1	B - 2
ICB6	B - 6	X2	E - 4
ICB7	B - 7		
ICC2	C - 2		
ICC4	C - 4		
ICC7	C - 7		
ICD1	D - 1		
ICD2	D - 2		
ICD6	D - 6		
ICD7	D - 7		
ICE4	E - 4		
ICE6	E - 6		
ICE7	E - 7		
ICF2	F - 2		
ICF3	F - 3		
ICF7	F - 7		
ICG2	G - 2		
ICH2	H - 2		
ICH5	H - 5		
ICH6	H - 6		
JW1	C - 1		
JW2	G - 7		
JW3	E - 3		

CPU-68 1-630-040-13   SONY MADE IN JAPAN   LOTNO   A-NO

CPU-68 -COMPONENT SIDE-
1-630-040-13 (1)
BVS-A1212
BVS-V1212

ASW-17; AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-11)

CN1	A - 4	IC4	E - 3
CN2	A - 11	IC5	B - 4
CN3	M - 3	IC6	E - 4
		IC7	B - 5
IC14	M - 5	IC8	E - 5
IC15	L - 6	IC9	B - 6
IC16	L - 7	IC10	E - 6
IC17	L - 8	IC11	B - 7
IC18	L - 9	IC12	E - 7
IC19	L - 9	IC13	J - 4
IC20	L - 10		
IC21	L - 11	S1	B - 2
IC22	L - 11	S2	E - 2
IC23	L - 12	S3	B - 3
IC24	L - 13	S4	E - 3
IC25	L - 13	S5	B - 3
IC26	L - 14	S6	E - 3
IC27	L - 15	S7	B - 4
IC28	H - 6	S8	E - 4
IC29	K - 6	S9	B - 5
IC30	K - 6	S10	E - 5
IC31	H - 7	S11	B - 6
IC32	K - 7	S12	E - 6
IC33	K - 7		
IC34	H - 8	TP1	M - 1
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	K - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		
RV1	B - 2		
RV2	E - 2		
RV3	B - 2		
RV4	E - 2		
RV5	B - 3		
RV6	E - 3		
RV7	B - 4		
RV8	E - 4		
RV9	B - 5		
RV10	E - 5		
RV11	B - 6		
RV12	E - 6		
D1	M - 2		
E1	H - 2		
E2	H - 7		
E3	H - 15		
IC1	B - 2		
IC2	E - 2		
IC3	B - 3		

SONY ASW-17 OK-50V
MADE IN JAPAN 1-630-037-11

ASW-17: AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-11)

CN1	A - 4	IC4	E - 3
CN2	A - 11	IC5	B - 4
CN3	M - 3	IC6	E - 4
		IC7	B - 5
IC14	M - 5	IC8	E - 5
IC15	L - 6	IC9	B - 6
IC16	L - 7	IC10	E - 6
IC17	L - 8	IC11	B - 7
IC18	L - 9	IC12	E - 7
IC19	L - 9	IC13	J - 4
IC20	L - 10		
IC21	L - 10	S1	B - 2
IC22	L - 11	S2	E - 2
IC23	L - 12	S3	B - 3
IC24	L - 13	S4	E - 3
IC25	L - 13	S5	B - 3
IC26	L - 14	S6	E - 3
IC27	L - 15	S7	B - 4
IC28	H - 6	S8	E - 4
IC29	K - 6	S9	B - 5
IC30	K - 6	S10	E - 5
IC31	H - 7	S11	B - 6
IC32	K - 7	S12	E - 6
IC33	K - 7		
IC34	H - 8	TP1	M - 1
IC35	H - 8		
IC36	H - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	K - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	H - 11		
IC51	K - 11		
IC52	H - 11		
IC53	K - 11		
IC54	K - 11		
IC55	H - 12		
IC56	H - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		
RV1	B - 2		
RV2	E - 2		
RV3	B - 2		
RV4	E - 2		
RV5	B - 3		
RV6	E - 3		
RV7	B - 4		
RV8	E - 4		
RV9	B - 5		
RV10	E - 5		
RV11	B - 6		
RV12	E - 6		
D1	M - 2		
E1	H - 2		
E2	H - 7		
E3	H - 15		
IC1	B - 2		
IC2	E - 2		
IC3	B - 3		

SONY ASW-17 OK-50V ℞ ▲
MADE IN JAPAN   1-630-037-11

DIP

LOT NO.   A-NO.

CN1   CN2   CN3

ASW-17 -COMPONENT SIDE-
1-630-037-11 (1)
BVS-A1212

ASW-17; AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-14)

CN1M	A - 4	RV1	B - 2
CN2M	A - 11	RV2	E - 2
CN3M	M - 3	RV3	B - 2
		RV4	E - 2
D1	M - 2	RV5	B - 3
		RV6	E - 3
E1	H - 2	RV7	B - 4
E2	H - 7	RV8	E - 4
E3	H - 15	RV9	B - 5
		RV10	E - 5
IC1	B - 2	RV11	B - 6
IC2	E - 2	RV12	E - 6
IC3	B - 3		
IC4	E - 3	S1	B - 2
IC5	B - 4	S2	E - 2
IC6	E - 4	S3	B - 3
IC7	B - 5	S4	E - 3
IC8	E - 5	S5	B - 3
IC9	B - 6	S6	E - 3
IC10	E - 6	S7	B - 4
IC11	B - 7	S8	E - 4
IC12	E - 7	S9	B - 5
IC13	J - 4	S10	E - 5
IC14	M - 5	S11	B - 6
IC15	L - 6	S12	E - 6
IC16	L - 7		
IC17	L - 8	TP1	M - 1
IC18	L - 9		
IC19	L - 9		
IC20	L - 10		
IC21	L - 11		
IC22	L - 11		
IC23	L - 12		
IC24	L - 13		
IC25	L - 13		
IC26	L - 14		
IC27	L - 15		
IC28	H - 6		
IC29	K - 6		
IC30	K - 6		
IC31	H - 7		
IC32	K - 7		
IC33	K - 7		
IC34	H - 8		
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	K - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		

SONY ASW-17 OK-50V
MADE IN JAPAN   1-630-037-14
LOT NO.   A-NO.
CN1M
CN3M
DIP

ASW-17: AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-14)

CN1M	A - 4	RV1	B - 2
CN2M	A - 11	RV2	E - 2
CN3M	M - 3	RV3	B - 2
		RV4	E - 2
D1	M - 2	RV5	E - 3
		RV6	E - 3
E1	H - 2	RV7	B - 4
E2	H - 7	RV8	B - 4
E3	H - 15	RV9	B - 5
		RV10	E - 5
IC1	B - 2	RV11	B - 6
IC2	E - 2	RV12	E - 6
IC3	B - 3		
IC4	E - 3	S1	B - 2
IC5	B - 4	S2	E - 2
IC6	E - 4	S3	B - 3
IC7	B - 5	S4	E - 3
IC8	E - 5	S5	B - 3
IC9	B - 6	S6	E - 3
IC10	E - 6	S7	B - 4
IC11	E - 7	S8	E - 4
IC12	E - 7	S9	B - 5
IC13	J - 4	S10	E - 5
IC14	M - 5	S11	B - 6
IC15	L - 6	S12	E - 6
IC16	L - 7		
IC17	L - 8	TP1	M - 1
IC18	L - 9		
IC19	L - 9		
IC20	L - 10		
IC21	L - 11		
IC22	L - 11		
IC23	L - 12		
IC24	L - 13		
IC25	L - 13		
IC26	L - 14		
IC27	L - 15		
IC28	H - 6		
IC29	K - 6		
IC30	K - 6		
IC31	H - 7		
IC32	K - 7		
IC33	K - 7		
IC34	H - 8		
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	H - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	H - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	K - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		

SONY ASW-17 DK-50V

MADE IN JAPAN   1-630-037-14

DIP

CN1M   CN2M   CN3M

LOT NO.   A-NO.

ASW-17 -COMPONENT SIDE-
1-630-037-14 (1)
BVS-A1212

AA-48; AUDIO AMPLIFTER BOARD
LE-76; LED BOARD
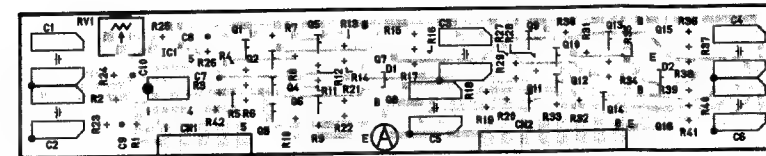
AA-48 -A SIDE-
1-630-043-11, 12 (1)
BVS-A1201
BVS-V1201
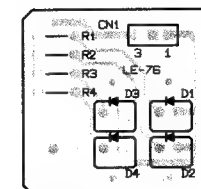
LE-76
-COMPONENT SIDE-
1-631-489-11 (1)
BVS-A1201
BVS-V1201
BVS-A1212
BVS-V1212

TR-56; TRANS BOARD

$600\Omega \longleftarrow 150\Omega \longrightarrow 37.5\Omega$

TR-56; TRANS BOARD

600Ω ← 150Ω → 37.5Ω   600Ω ← 150Ω → 37.5Ω   600Ω ← 150Ω → 37.5Ω   600Ω ← 150Ω → 37.5Ω   600Ω ← 150Ω → 37.5Ω   600Ω ← 150Ω → 37.5Ω   600Ω ← 150Ω → 37.5Ω

SONY
MADE IN JAPAN

TR-56
1-630-041-11

S1

LOTNO   A-NO.

DIP
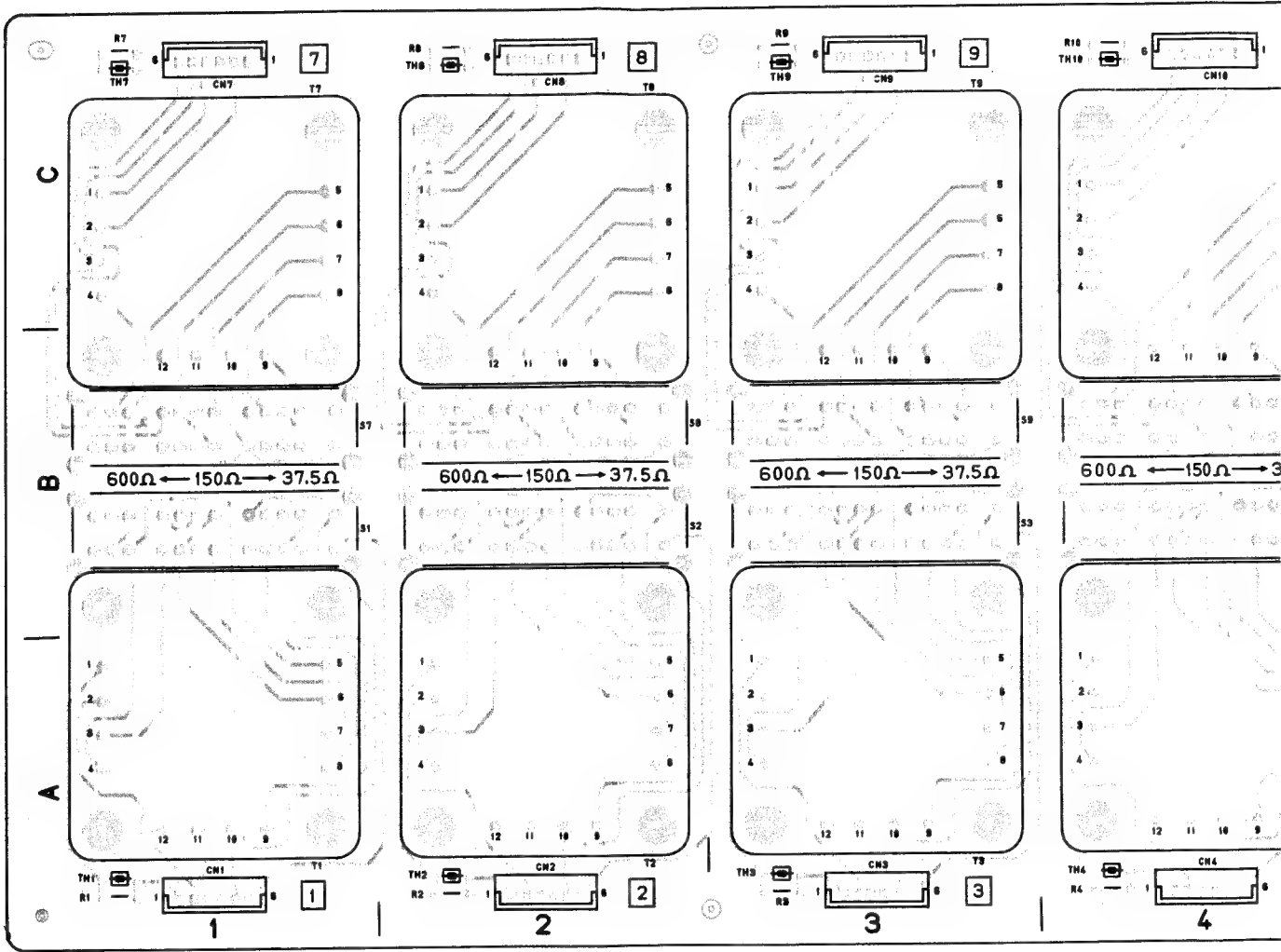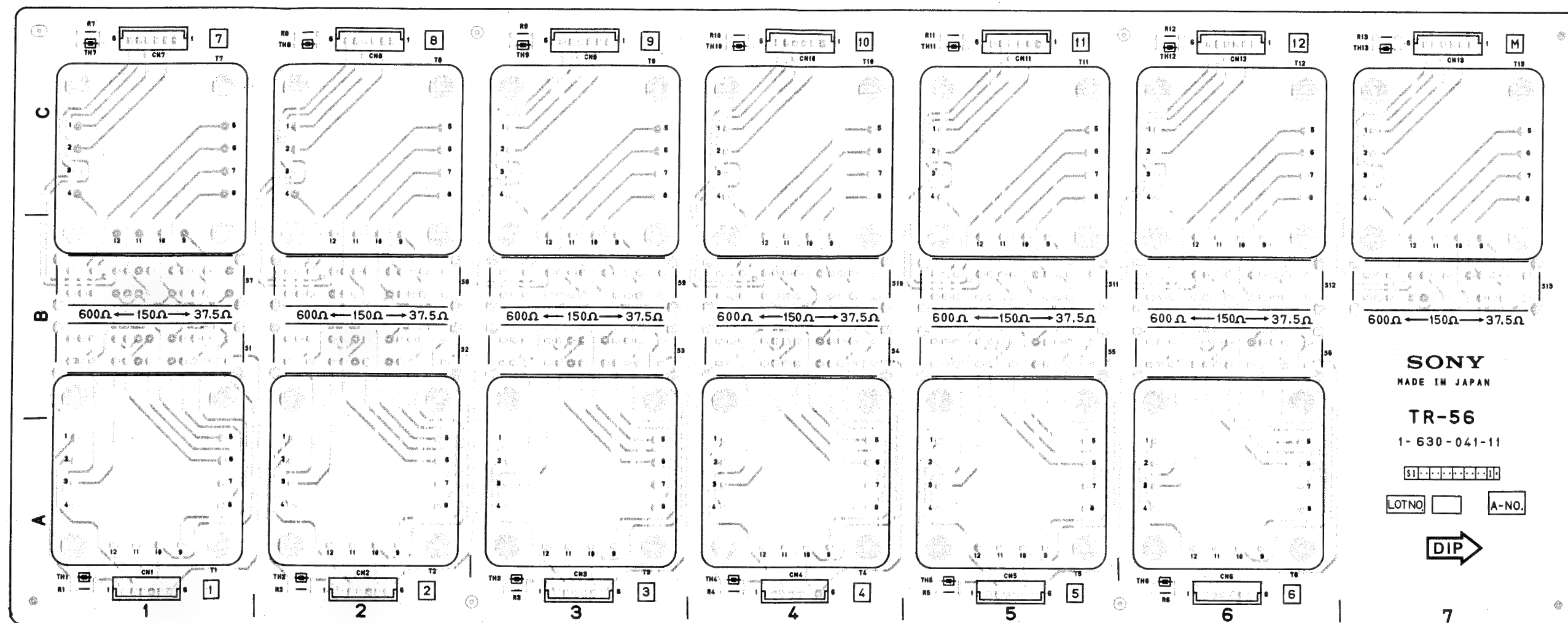
TR-56 -COMPONENT SIDE-
1-630-041-11 (1)
BVS-A1212

MB-262   MB-262

MB-262; MOTHER BOARD   S/N 10001 TO 10035 (E)
S/N 20001 AND HIGHER (J)

MB-262; MOTHER BOARD

S/N 10001 TO 10035 (E)
S/N 20001 AND HIGHER (J)

SONY
MADE IN JAPAN
MB-262 1-630-042-11
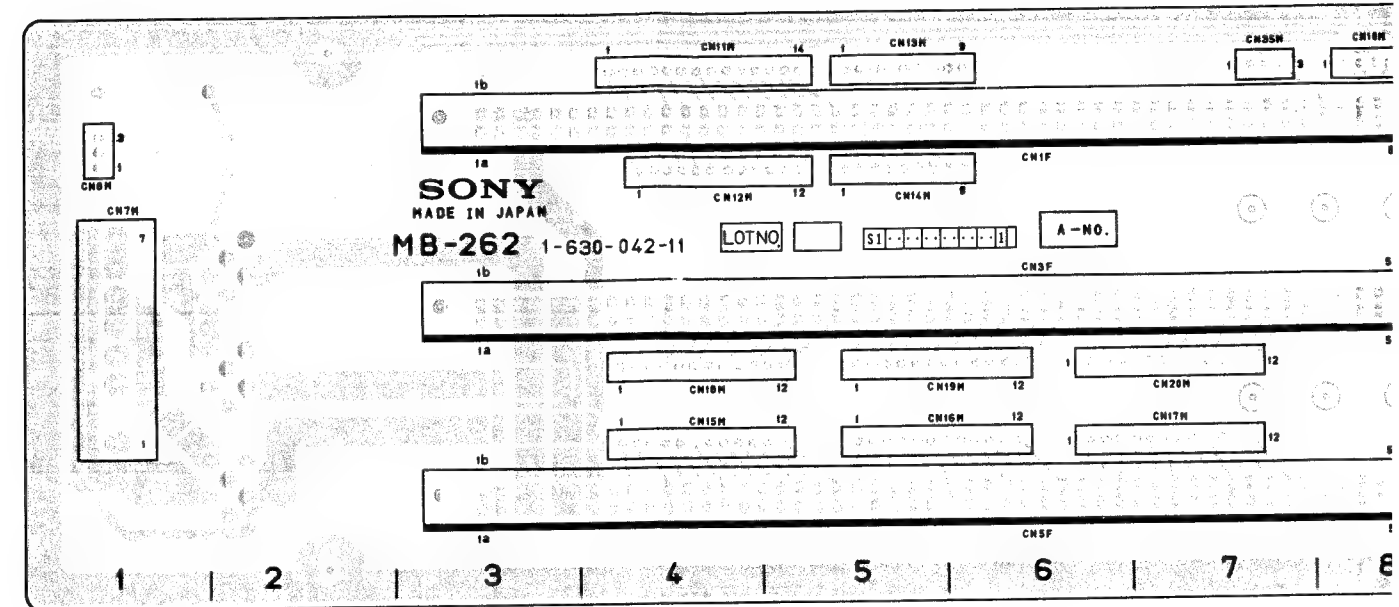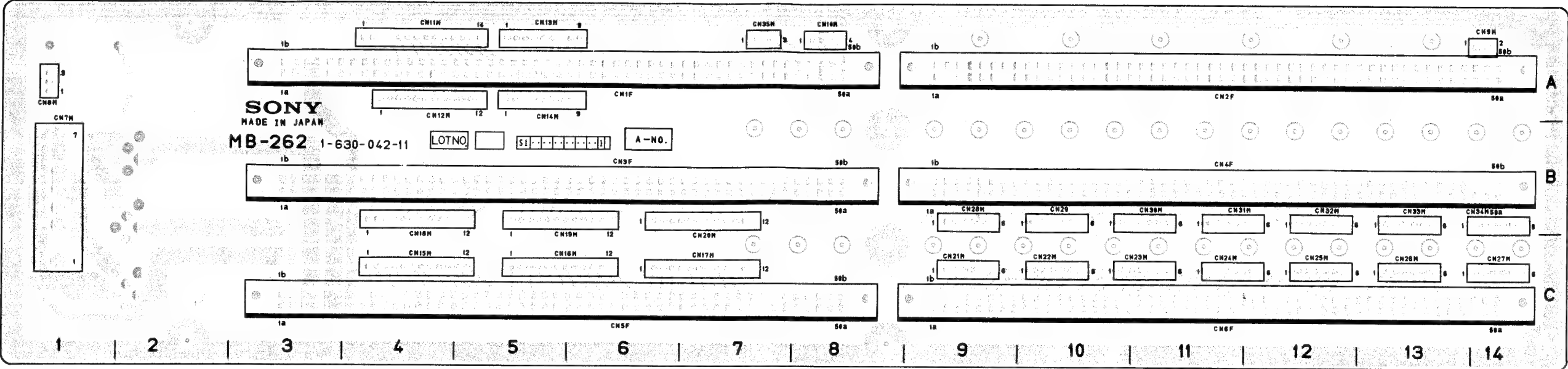
MB-262 -COMPONENT SIDE-
1-630-042-11 (1)
BVS-V1212

MB-262; MOTHER BOARD　S/N 10036 AND HIGHER(E)
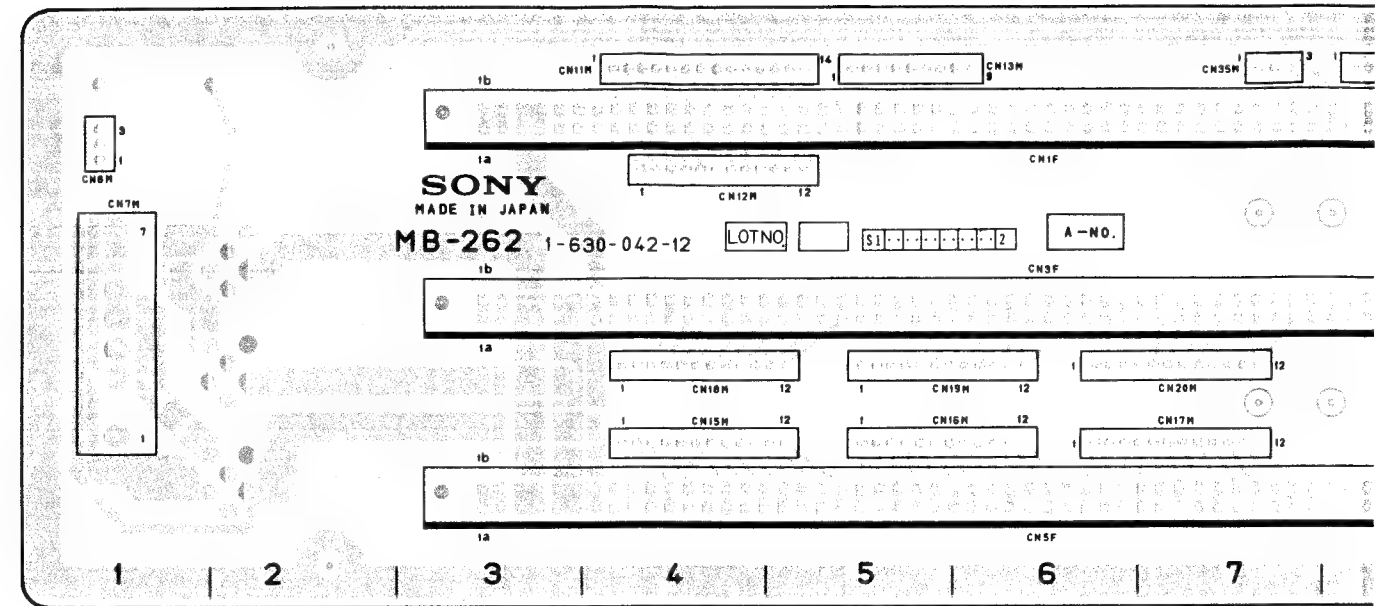
MB-262; MOTHER BOARD   S/N 10036 AND HIGHER (E)
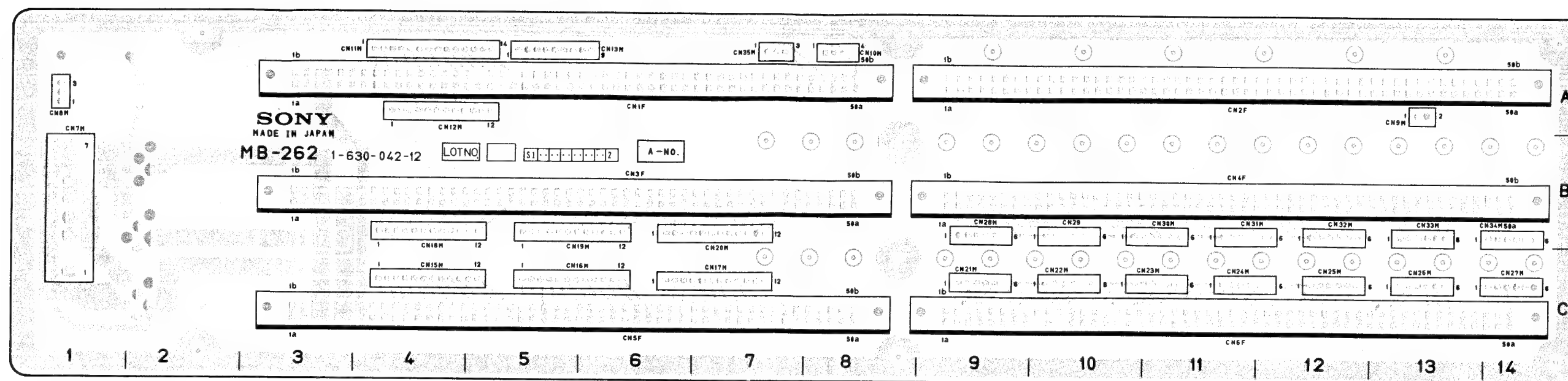
MB-262 -COMPONENT SIDE-
1-630-042-12 (1)
BVS-A1212

BKS-R1210
SW-354; SWITCH BOARD

SW-354

BKS-R1210
SW-354; SWITCH BOARD

SONY
MADE IN JAPAN

SW-354
1-630-049-11

A-NO   LOTNO
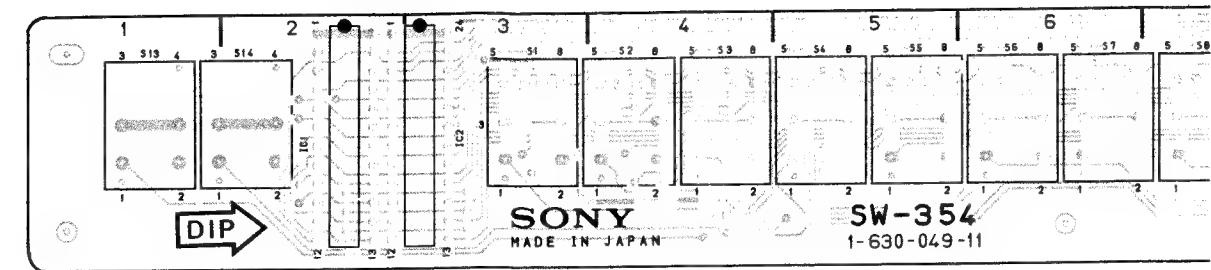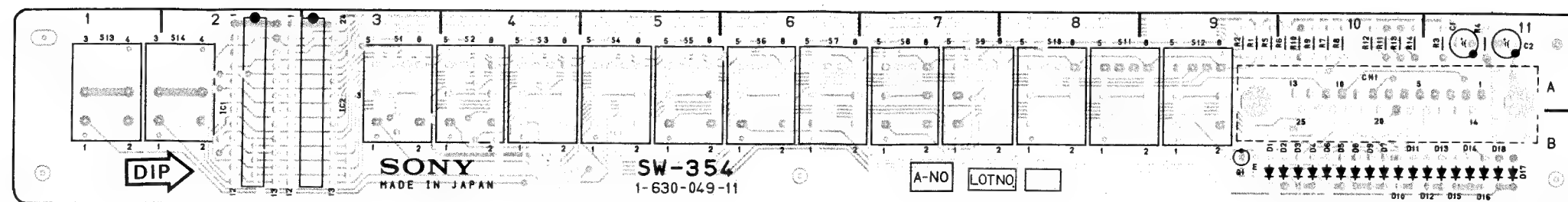
SW-354 —COMPONENT SIDE—
1-630-049-11 (1)
BVS-V1201
BKS-R1210

SECTION 9
SPARE PARTS AND FIXTURE

9-1. PARTS INFORMATION

(1) The shaded and ⚠ -marked components are critical to safety.
Replace only with the same components as specified.

(2) Replacement parts supplied from the Sony Parts Center will sometimes have a different shape and outside view from the parts which are used in the unit. This is due to "accommodating improved parts and/or engineering changes" or "standardization of genuine parts".

. This manual's exploded views and electrical spare parts lists indicate the part numbers of "the present standardized genuine parts".

. Regarding engineering part changes by our engineering department, refer to Sony service bulletins and service manual supplements.

(3) The parts marked with "s" in the SP column of the exploded views and electrical spare parts lists are normally stocked for replacement purposes. The parts marked with "o" in the SP column are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.

(4) Item with no part number and/or no description are not stocked because they are seldom required for routine service.

(5) (T) after a spring description is shown on the exploded views in order to indicate the number of a spring turn required for the use.
(Example)
Spring, tension (24T); This spring must be cut at its 24th turn for actual use.

9-2. EXPLODED VIEW

. Exploded views are composed of the following blocks.

(1) Chassis
(2) Rear Panel
(3) BKS-R1210

Chassis
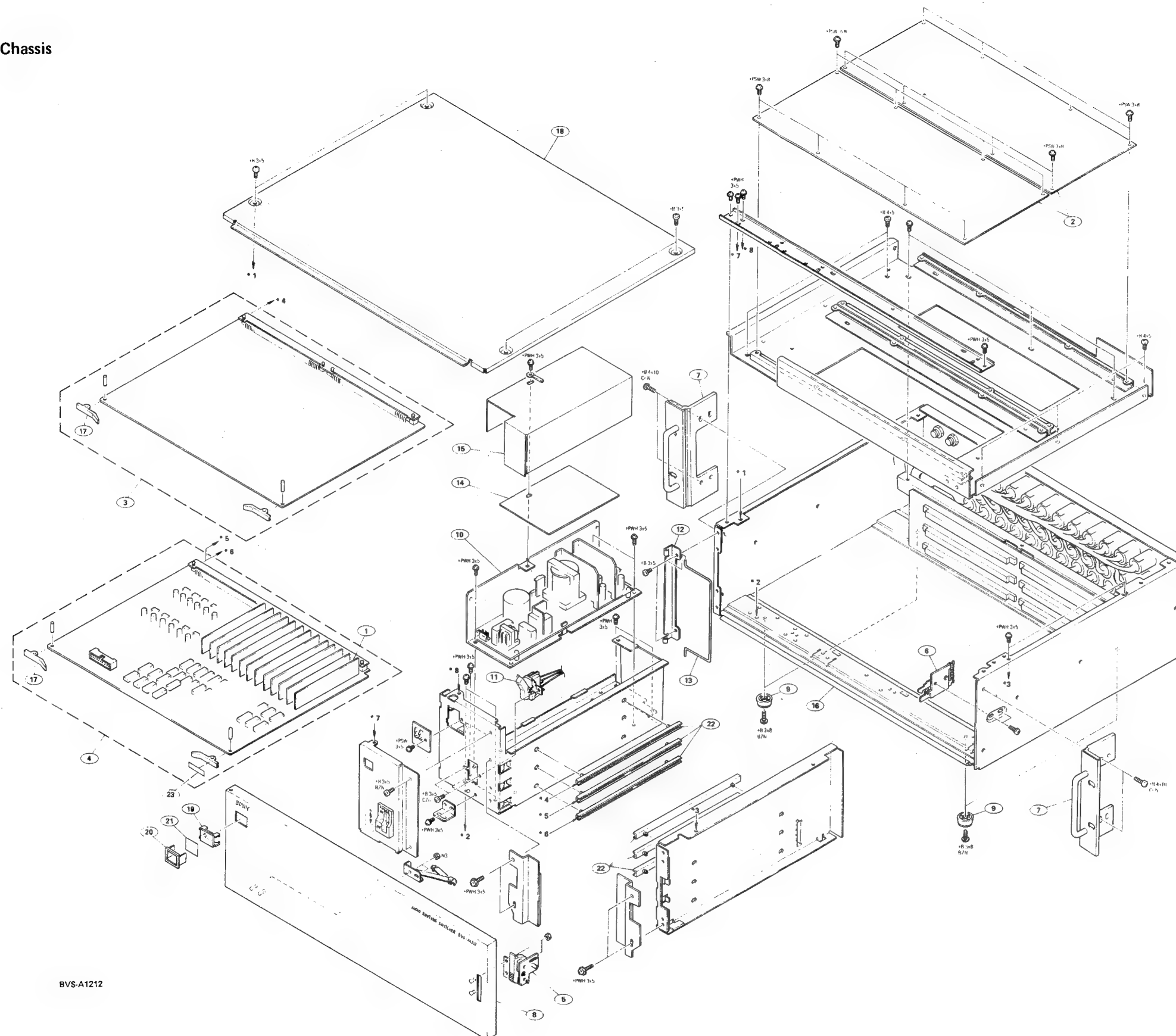
BVS-A1212

No.	Part No.	SP	Description
1	A-6261-054-A	o	MOUNTED CIRCUIT BOARD, AA-48
2	A-6266-175-A	o	MOUNTED CIRCUIT BOARD, TR-56
3	A-6267-177-A	o	MOUNTED CIRCUIT BOARD, CPU-68
4	A-6279-468-A	o	ASW-17 ASSY
5	A-6279-484-A	o	HANDLE ASSY, DOOR
6	X-2127-216-1	o	LOCK ASSY, DOOR
7	X-2127-218-1	o	ANGLE ASSY (3U), RACK
8	X-2127-220-1	o	PANEL (A2) ASSY, F
9	X-3556-910-0	o	FOOT ASSY, MF
10	⚠1-413-461-11	s	REGULATOR, SWITCHING(ED-110)
11	⚠1-570-384-11	s	SWITCH, SEESAW(AC POWER)
12	2-139-012-01	o	HINGE (3U)
13	2-139-020-01	o	SHAFT (3U) HINGE
14	2-139-022-01	o	SHEET, INSULATING
15	2-139-027-01	o	CASE(B), SHIELD
16	2-139-028-01	o	CHASSIS
17	2-182-909-02	o	LEVER, PC BOARD
18	2-182-935-02	o	PLATE (D305), TOP
19	2-249-303-01	o	WINDOW (2), REMOTE CONTROL
20	2-249-304-02	o	FRAME (2), WINDOW, REMOTE CONTROL
21	2-249-353-01	o	COVER, LAMP
22	3-673-676-21	o	RAIL, PC BOARD GUIDE
23	2-139-014-61	o	LABEL, PC BOARD NAME(CH-1)
	2-139-014-71	o	LABEL, PC BOARD NAME(CH-2)

Rear Panel
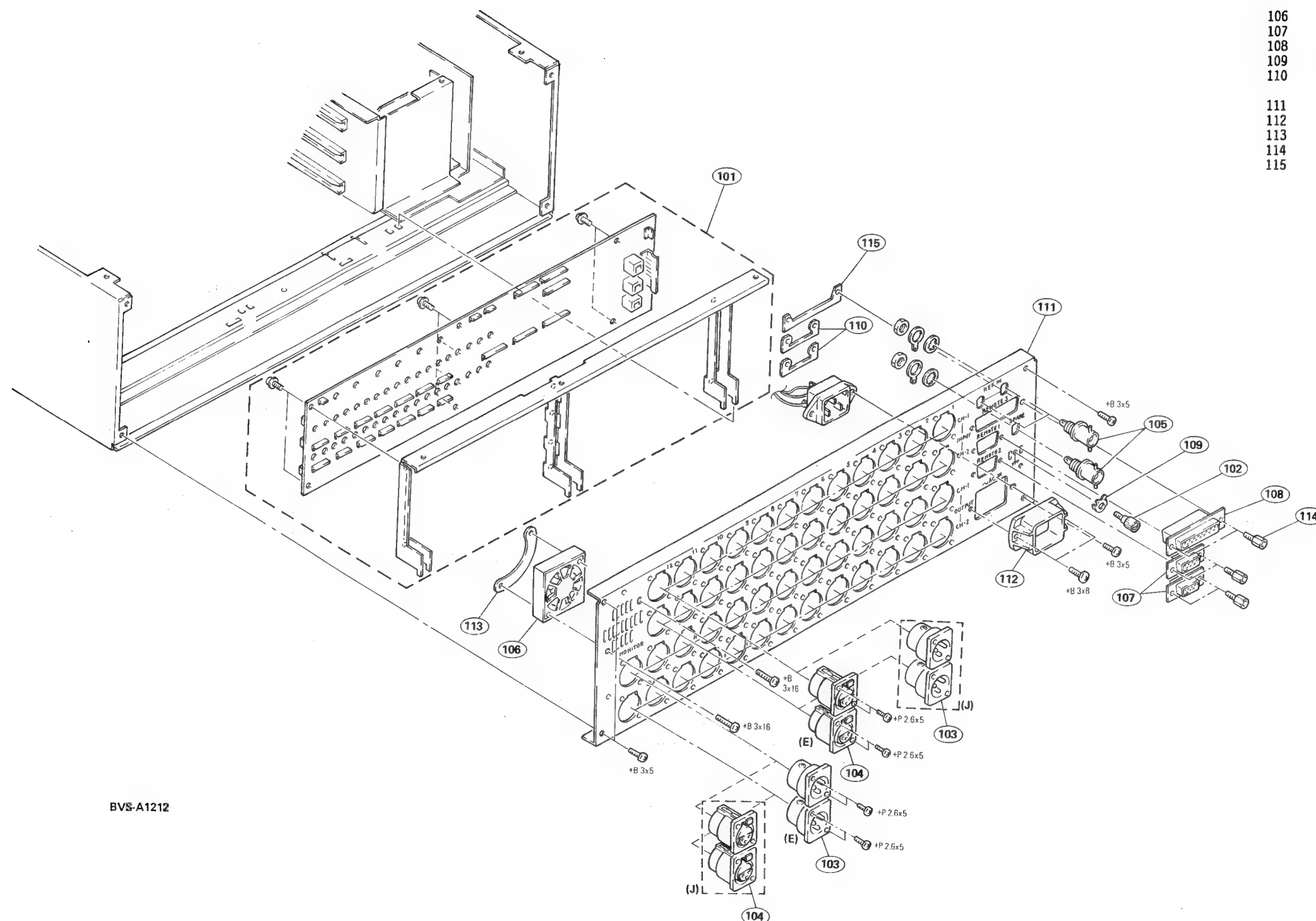
BVS-A1212

Ref. No.
or Q'ty Part No.   SP Description

101	A-6266-174-A	o	MOUNTED CIRCUIT BOARD, MB-262
102	X-2068-004-0	s	TERMINAL ASSY
103	1-509-176-51	s	CONNECTOR (RECEPTACLE) 3P
104	1-509-184-51	s	CONNECTOR (RECEPTACLE) 3P
105	1-509-891-00	s	CONNECTOR, BNC (RECEPTACLE)
106	1-541-638-11	s	MOTOR, DC FAN
107	1-563-846-11	s	SOCKET, D-SUB CONNECTOR 9P
108	1-563-817-21	s	SOCKET, D-SUB CONNECTOR 25P
109	2-068-008-00	s	WASHER
110	2-139-018-01	s	NUT (D-SUB 9P), PLATE
111	2-139-031-01	o	PANEL, REAR
112	2-990-241-01	o	HOLDER (A), PLUG
113	3-651-491-00	o	NUT, (AC), PLATE
114	3-668-459-00	s	SCREW, CONNECTOR
115	4-604-023-11	o	NUT (D-SUB), PLATE

BKS-R1210

Ref. No.
or Q'ty   Part No.   SP Description

201   A-6267-176-A o MOUNTED CIRCUIT BOARD, SW-354
202   2-130-286-01 o PANEL, REMOTE CONTROL
203   2-130-283-01 o SPACER
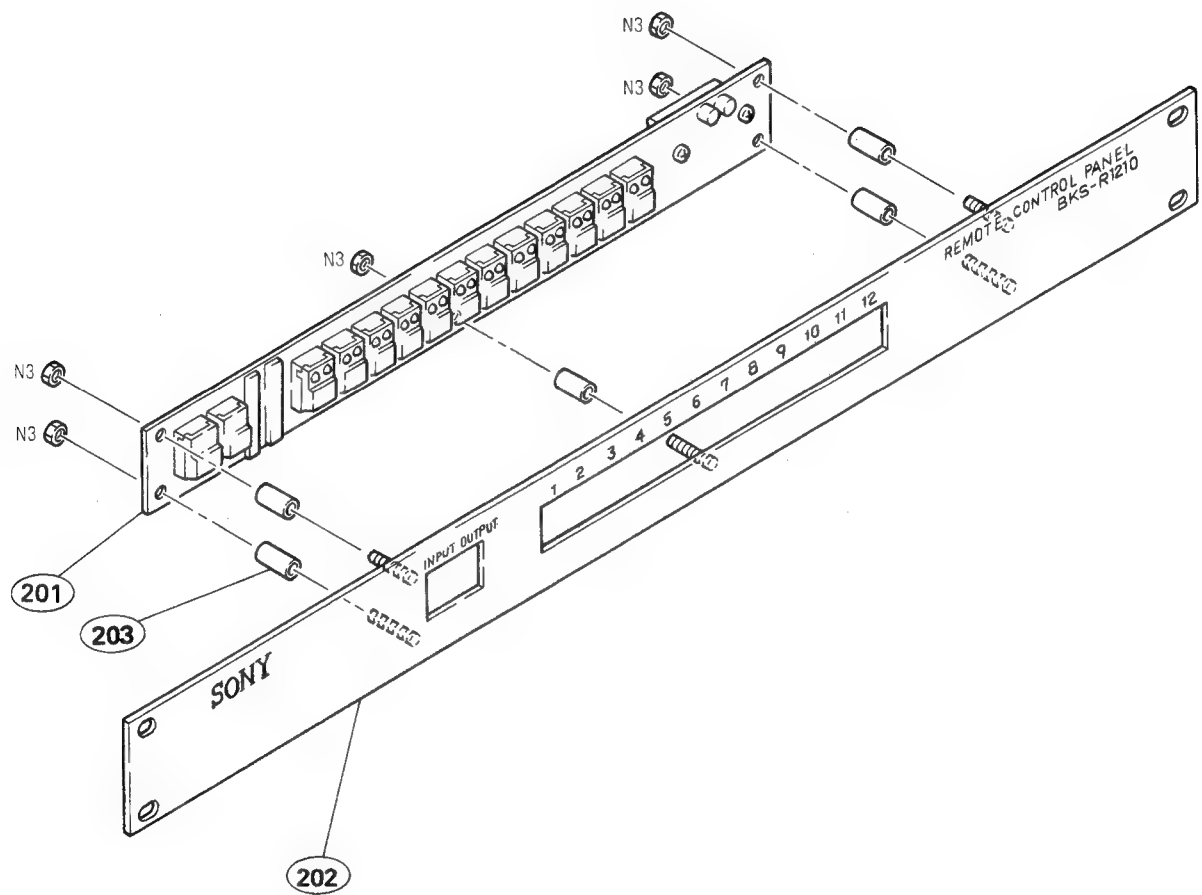
9-3. ELECTRICAL PARTS LIST

ABBREVIATIONS

Ref. No.	Description	Ref. No.	Description	Ref. No.	Description
C□□, CT□□	CAPACITOR	IC□□	IC	Q□□	TRANSISTOR
CF□□	CERAMIC FILTER	J□□	JACK	R□□, RV□□	RESISTOR
CN□□	CONNECTOR	L□□	INDUCTOR	RY□□	RELAY
D□□	DIODE	M□□	MOTOR	S□□, SW□□	SWITCH
DL□□	DELAY LINE	ME□□	METER	SB□□	SOLAR BATTERY
F□□	FUSE	MIC□□	MICROPHONE	T□□	TRANSFORMER
FB□□	FERRITE BEAD	PG□□	PG COIL	TH□□	THERMISTOR
FL□□	FILTER	PL□□	LAMP	X□□	CRYSTAL
H□□	HEAD	PM□□	SOLENOIDE		

All capacitors are in micro farads unless otherwise specified.

All inductors are in micro henries unless otherwise specified.

All resistors are in ohms.

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--------------------------------------
General Purpose Electrical Parts List
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Parts that are not listed in the "reference numbers
order list" are shown in following list.
Reference numbers are omitted.


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RESISTOR, CHIP METAL
--------------------

Part No.     SP Description

1-216-603-11   s   RES, CHIP METAL   10    1% 1/10W
1-216-605-11   s   RES, CHIP METAL   12    1% 1/10W
1-216-609-11   s   RES, CHIP METAL   18    1% 1/10W
1-216-611-11   s   RES, CHIP METAL   22    1% 1/10W
1-216-614-11   s   RES, CHIP METAL   30    1% 1/10W

1-216-617-11   s   RES, CHIP METAL   39    1% 1/10W
1-216-619-11   s   RES, CHIP METAL   47    1% 1/10W
1-216-620-11   s   RES, CHIP METAL   51    1% 1/10W
1-216-623-11   s   RES, CHIP METAL   68    1% 1/10W
1-216-624-11   s   RES, CHIP METAL   75    1% 1/10W

1-216-625-11   s   RES, CHIP METAL   82    1% 1/10W
1-216-626-11   s   RES, CHIP METAL   91    1% 1/10W
1-216-627-11   s   RES, CHIP METAL   100   1% 1/10W
1-216-629-11   s   RES, CHIP METAL   120   1% 1/10W
1-216-631-11   s   RES, CHIP METAL   150   1% 1/10W

1-216-633-11   s   RES, CHIP METAL   180   1% 1/10W
1-216-634-11   s   RES, CHIP METAL   200   1% 1/10W
1-216-635-11   s   RES, CHIP METAL   220   1% 1/10W
1-216-636-11   s   RES, CHIP METAL   240   1% 1/10W
1-216-637-11   s   RES, CHIP METAL   270   1% 1/10W

1-216-638-11   s   RES, CHIP METAL   300   1% 1/10W
1-216-639-11   s   RES, CHIP METAL   330   1% 1/10W
1-216-640-11   s   RES, CHIP METAL   360   1% 1/10W
1-216-641-11   s   RES, CHIP METAL   390   1% 1/10W
1-216-642-11   s   RES, CHIP METAL   430   1% 1/10W

1-216-643-11   s   RES, CHIP METAL   470   1% 1/10W
1-216-644-11   s   RES, CHIP METAL   510   1% 1/10W
1-216-645-11   s   RES, CHIP METAL   560   1% 1/10W
1-216-647-11   s   RES, CHIP METAL   680   1% 1/10W
1-216-648-11   s   RES, CHIP METAL   750   1% 1/10W

1-216-649-11   s   RES, CHIP METAL   820   1% 1/10W
1-216-650-11   s   RES, CHIP METAL   910   1% 1/10W
1-216-651-11   s   RES, CHIP METAL   1.0k  1% 1/10W
1-216-652-11   s   RES, CHIP METAL   1.1k  1% 1/10W
1-216-653-11   s   RES, CHIP METAL   1.2k  1% 1/10W

1-216-655-11   s   RES, CHIP METAL   1.5k  1% 1/10W
1-216-656-11   s   RES, CHIP METAL   1.6k  1% 1/10W
1-216-657-11   s   RES, CHIP METAL   1.8k  1% 1/10W
1-216-658-11   s   RES, CHIP METAL   2k    1% 1/10W
1-216-659-11   s   RES, CHIP METAL   2.2k  1% 1/10W

1-216-660-11   s   RES, CHIP METAL   2.4k  1% 1/10W
1-216-661-11   s   RES, CHIP METAL   2.7k  1% 1/10W
1-216-662-11   s   RES, CHIP METAL   3k    1% 1/10W
1-216-663-11   s   RES, CHIP METAL   3.3k  1% 1/10W
1-216-664-11   s   RES, CHIP METAL   3.5k  1% 1/10W

1-216-665-11   s   RES, CHIP METAL   3.9k  1% 1/10W
1-216-666-11   s   RES, CHIP METAL   4.3k  1% 1/10W
1-216-667-11   s   RES, CHIP METAL   4.7k  1% 1/10W
1-216-668-11   s   RES, CHIP METAL   5.1k  1% 1/10W
1-216-669-11   s   RES, CHIP METAL   5.6k  1% 1/10W
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RESISTOR, CHIP METAL
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Part No.     SP Description

1-216-670-11   s   RES, CHIP METAL   6.2k  1% 1/10W
1-216-671-11   s   RES, CHIP METAL   6.8k  1% 1/10W
1-216-672-11   s   RES, CHIP METAL   7.5k  1% 1/10W
1-216-673-11   s   RES, CHIP METAL   8.2k  1% 1/10W
1-216-674-11   s   RES, CHIP METAL   9.1k  1% 1/10W

1-216-675-11   s   RES, CHIP METAL   10k   1% 1/10W
1-216-676-11   s   RES, CHIP METAL   11k   1% 1/10W
1-216-677-11   s   RES, CHIP METAL   12k   1% 1/10W
1-216-678-11   s   RES, CHIP METAL   13k   1% 1/10W
1-216-679-11   s   RES, CHIP METAL   15k   1% 1/10W

1-216-680-11   s   RES, CHIP METAL   16k   1% 1/10W
1-216-681-11   s   RES, CHIP METAL   18k   1% 1/10W
1-216-682-11   s   RES, CHIP METAL   20k   1% 1/10W
1-216-683-11   s   RES, CHIP METAL   22k   1% 1/10W
1-216-684-11   s   RES, CHIP METAL   24k   1% 1/10W

1-216-685-11   s   RES, CHIP METAL   27k   1% 1/10W
1-216-686-11   s   RES, CHIP METAL   30k   1% 1/10W
1-216-687-11   s   RES, CHIP METAL   33k   1% 1/10W
1-216-688-11   s   RES, CHIP METAL   36k   1% 1/10W
1-216-689-11   s   RES, CHIP METAL   39k   1% 1/10W

1-216-690-11   s   RES, CHIP METAL   43k   1% 1/10W
1-216-691-11   s   RES, CHIP METAL   49k   1% 1/10W
1-216-692-11   s   RES, CHIP METAL   51k   1% 1/10W
1-216-693-11   s   RES, CHIP METAL   56k   1% 1/10W
1-216-694-11   s   RES, CHIP METAL   62k   1% 1/10W

1-216-695-11   s   RES, CHIP METAL   68k   1% 1/10W
1-216-696-11   s   RES, CHIP METAL   75k   1% 1/10W
1-216-697-11   s   RES, CHIP METAL   82k   1% 1/10W
1-216-698-11   s   RES, CHIP METAL   91k   1% 1/10W
1-216-699-11   s   RES, CHIP METAL   100k  1% 1/10W
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ASW-17 BOARD
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Ref. No.
or Q'ty  Part No.    SP Description

1pc      2-182-909-01 o LEVER, PC BOARD
2pcs     7-626-320-11 o PIN, SPRING 3x8

C1       1-163-109-00 s CERAMIC 47PF 5% 50V
C2       1-135-092-21 s TANTAL 3.3uF 10% 16V
C3       1-124-290-00 s ELECT 47uF 20% 10V
C4       1-135-092-21 s TANTAL 3.3uF 10% 16V
C5       1-163-109-00 s CERAMIC 47PF 5% 50V

C6       1-135-092-21 s TANTAL 3.3uF 10% 16V
C7       1-124-290-00 s ELECT 47uF 20% 10V
C8       1-135-092-21 s TANTAL 3.3uF 10% 16V
C9       1-163-109-00 s CERAMIC 47PF 5% 50V
C10      1-135-092-21 s TANTAL 3.3uF 10% 16V

C11      1-124-290-00 s ELECT 47uF 20% 10V
C12      1-135-092-21 s TANTAL 3.3uF 10% 16V
C13      1-163-109-00 s CERAMIC 47PF 5% 50V
C14      1-135-092-21 s TANTAL 3.3uF 10% 16V
C15      1-124-290-00 s ELECT 47uF 20% 10V

C16      1-135-092-21 s TANTAL 3.3uF 10% 16V
C17      1-163-109-00 s CERAMIC 47PF 5% 50V
C18      1-135-092-21 s TANTAL 3.3uF 10% 16V
C19      1-124-290-00 s ELECT 47uF 20% 10V
C20      1-135-092-21 s TANTAL 3.3uF 10% 16V

C21      1-163-109-00 s CERAMIC 47PF 5% 50V
C22      1-135-092-21 s TANTAL 3.3uF 10% 16V
C23      1-124-290-00 s ELECT 47uF 20% 10V
C24      1-135-092-21 s TANTAL 3.3uF 10% 16V
C25      1-163-109-00 s CERAMIC 47PF 5% 50V

C26      1-135-092-21 s TANTAL 3.3uF 10% 16V
C27      1-124-290-00 s ELECT 47uF 20% 10V
C28      1-135-092-21 s TANTAL 3.3uF 10% 16V
C29      1-163-109-00 s CERAMIC 47PF 5% 50V
C30      1-135-092-21 s TANTAL 3.3uF 10% 16V

C31      1-124-290-00 s ELECT 47uF 20% 10V
C32      1-135-092-21 s TANTAL 3.3uF 10% 16V
C33      1-163-109-00 s CERAMIC 47PF 5% 50V
C34      1-135-092-21 s TANTAL 3.3uF 10% 16V
C35      1-124-290-00 s ELECT 47uF 20% 10V

C36      1-135-092-21 s TANTAL 3.3uF 10% 16V
C37      1-163-109-00 s CERAMIC 47PF 5% 50V
C38      1-135-092-21 s TANTAL 3.3uF 10% 16V
C39      1-124-290-00 s ELECT 47uF 20% 10V
C40      1-135-092-21 s TANTAL 3.3uF 10% 16V

C41      1-163-109-00 s CERAMIC 47PF 5% 50V
C42      1-135-092-21 s TANTAL 3.3uF 10% 16V
C43      1-124-290-00 s ELECT 47uF 20% 10V
C44      1-135-092-21 s TANTAL 3.3uF 10% 16V
C45      1-163-109-00 s CERAMIC 47PF 5% 50V

C46      1-135-092-21 s TANTAL 3.3uF 10% 16V
C47      1-124-290-00 s ELECT 47uF 20% 10V
C48      1-135-092-21 s TANTAL 3.3uF 10% 16V
C49      1-163-038-00 s CERAMIC 0.1  25V
C50      1-163-038-00 s CERAMIC 0.1  25V

C51      1-163-038-00 s CERAMIC 0.1  25V
C52      1-163-038-00 s CERAMIC 0.1  25V
C53      1-135-092-21 s TANTAL 3.3uF 10% 16V
C54      1-163-038-00 s CERAMIC 0.1  25V
C55      1-163-038-00 s CERAMIC 0.1  25V

C56      1-163-038-00 s CERAMIC 0.1  25V
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(ASW-17 BOARD)

Ref. No.
or Q'ty  Part No.    SP Description

C57      1-163-038-00 s CERAMIC 0.1  25V
C58      1-163-038-00 s CERAMIC 0.1  25V
C59      1-163-038-00 s CERAMIC 0.1  25V
C60      1-163-038-00 s CERAMIC 0.1  25V
C61      1-163-038-00 s CERAMIC 0.1  25V

C62      1-163-038-00 s CERAMIC 0.1  25V
C63      1-163-038-00 s CERAMIC 0.1  25V
C64      1-163-038-00 s CERAMIC 0.1  25V
C65      1-163-038-00 s CERAMIC 0.1  25V
C66      1-163-038-00 s CERAMIC 0.1  25V

C67      1-163-038-00 s CERAMIC 0.1  25V
C68      1-163-038-00 s CERAMIC 0.1  25V
C69      1-163-038-00 s CERAMIC 0.1  25V
C70      1-163-038-00 s CERAMIC 0.1  25V
C71      1-163-038-00 s CERAMIC 0.1  25V

C72      1-163-038-00 s CERAMIC 0.1  25V
C73      1-163-038-00 s CERAMIC 0.1  25V
C74      1-163-038-00 s CERAMIC 0.1  25V
C75      1-163-038-00 s CERAMIC 0.1  25V
C76      1-163-038-00 s CERAMIC 0.1  25V

C77      1-163-038-00 s CERAMIC 0.1  25V
C78      1-163-038-00 s CERAMIC 0.1  25V
C79      1-163-038-00 s CERAMIC 0.1  25V
C80      1-163-038-00 s CERAMIC 0.1  25V
C81      1-163-038-00 s CERAMIC 0.1  25V

C82      1-163-038-00 s CERAMIC 0.1  25V
C83      1-163-038-00 s CERAMIC 0.1  25V
C84      1-163-038-00 s CERAMIC 0.1  25V
C85      1-163-038-00 s CERAMIC 0.1  25V
C86      1-163-038-00 s CERAMIC 0.1  25V

C87      1-163-038-00 s CERAMIC 0.1  25V
C88      1-163-038-00 s CERAMIC 0.1  25V
C89      1-163-038-00 s CERAMIC 0.1  25V
C90      1-163-038-00 s CERAMIC 0.1  25V
C91      1-163-038-00 s CERAMIC 0.1  25V

C92      1-163-038-00 s CERAMIC 0.1  25V
C93      1-163-038-00 s CERAMIC 0.1  25V
C94      1-163-038-00 s CERAMIC 0.1  25V
C95      1-163-038-00 s CERAMIC 0.1  25V
C96      1-126-396-11 s ELECT 47uF 20% 16V

C97      1-163-038-00 s CERAMIC 0.1  25V
C98      1-126-396-11 s ELECT 47uF 20% 16V
C99      1-163-038-00 s CERAMIC 0.1  25V
C100     1-126-392-11 s ELECT 100uF 20% 6.3V
C101     1-163-038-00 s CERAMIC 0.1  25V

CN1      1-566-986-11 o CONNECTOR, MULTI 100P
CN2      1-566-986-11 o CONNECTOR, MULTI 100P
CN3      1-564-359-00 o HEADER, CONNECTOR 20P

D1       8-719-400-35 s LN35BP

IC1      8-759-905-42 s NE5534P
IC2      8-759-905-42 s NE5534P
IC3      8-759-905-42 s NE5534P
IC4      8-759-905-42 s NE5534P
IC5      8-759-905-42 s NE5534P

IC6      8-759-905-42 s NE5534P
IC7      8-759-905-42 s NE5534P
IC8      8-759-905-42 s NE5534P
IC9      8-759-905-42 s NE5534P
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Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(ASW-17 **BOARD**)

Ref. No. or Q'ty	Part No.	SP	Description
IC10	8-759-905-42	s	NE5534P
IC11	8-759-905-42	s	NE5534P
IC12	8-759-905-42	s	NE5534P
IC13	8-759-938-68	s	CXD1095Q
IC14	8-759-204-94	s	TC74HC00F
IC15	8-759-925-92	s	SN74HC75NS
IC16	8-759-925-92	s	SN74HC75NS
IC17	8-759-925-92	s	SN74HC75NS
IC18	8-759-925-92	s	SN74HC75NS
IC19	8-759-925-92	s	SN74HC75NS
IC20	8-759-925-92	s	SN74HC75NS
IC21	8-759-925-92	s	SN74HC75NS
IC22	8-759-925-92	s	SN74HC75NS
IC23	8-759-925-92	s	SN74HC75NS
IC24	8-759-925-92	s	SN74HC75NS
IC25	8-759-925-92	s	SN74HC75NS
IC26	8-759-925-92	s	SN74HC75NS
IC27	8-759-925-92	s	SN74HC75NS
IC28	8-759-999-83	s	DG408DJ
IC29	8-759-999-83	s	DG408DJ
IC30	8-759-925-92	s	SN74HC75NS
IC31	8-759-999-83	s	DG408DJ
IC32	8-759-999-83	s	DG408DJ
IC33	8-759-925-92	s	SN74HC75NS
IC34	8-759-999-83	s	DG408DJ
IC35	8-759-999-83	s	DG408DJ
IC36	8-759-925-92	s	SN74HC75NS
IC37	8-759-999-83	s	DG408DJ
IC38	8-759-999-83	s	DG408DJ
IC39	8-759-925-92	s	SN74HC75NS
IC40	8-759-999-83	s	DG408DJ
IC41	8-759-999-83	s	DG408DJ
IC42	8-759-925-92	s	SN74HC75NS
IC43	8-759-999-83	s	DG408DJ
IC44	8-759-999-83	s	DG408DJ
IC45	8-759-925-92	s	SN74HC75NS
IC46	8-759-999-83	s	DG408DJ
IC47	8-759-999-83	s	DG408DJ
IC48	8-759-925-92	s	SN74HC75NS
IC49	8-759-999-83	s	DG408DJ
IC50	8-759-999-83	s	DG408DJ
IC51	8-759-925-92	s	SN74HC75NS
IC52	8-759-999-83	s	DG408DJ
IC53	8-759-999-83	s	DG408DJ
IC54	8-759-925-92	s	SN74HC75NS
IC55	8-759-999-83	s	DG408DJ
IC56	8-759-999-83	s	DG408DJ
IC57	8-759-925-92	s	SN74HC75NS
IC58	8-759-999-83	s	DG408DJ
IC59	8-759-999-83	s	DG408DJ
IC60	8-759-925-92	s	SN74HC75NS
IC61	8-759-999-83	s	DG408DJ
IC62	8-759-999-83	s	DG408DJ
IC63	8-759-925-92	s	SN74HC75NS
IC64	8-759-999-83	s	DG408DJ
IC65	8-759-999-83	s	DG408DJ
IC66	8-759-925-92	s	SN74HC75NS
IC67	8-759-999-83	s	DG408DJ
IC68	8-759-999-83	s	DG408DJ

(ASW-17 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC69	8-759-925-92	s	SN74HC75NS
IC70	8-759-925-92	s	SN74HC75NS
Q1	8-729-901-13	s	DTA144WK-96
R1	1-214-848-00	s	METAL 220 1% 1/2W
R2	1-214-852-00	s	METAL 330 1% 1/2W
R4	1-218-367-91	s	METAL 10K 0.10% 1/16W
R5	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R6	1-218-367-91	s	METAL 10K 0.10% 1/16W
R7	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R11	1-214-848-00	s	METAL 220 1% 1/2W
R12	1-214-852-00	s	METAL 330 1% 1/2W
R14	1-218-367-91	s	METAL 10K 0.10% 1/16W
R15	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R16	1-218-367-91	s	METAL 10K 0.10% 1/16W
R17	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R21	1-214-848-00	s	METAL 220 1% 1/2W
R22	1-214-852-00	s	METAL 330 1% 1/2W
R24	1-218-367-91	s	METAL 10K 0.10% 1/16W
R25	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R26	1-218-367-91	s	METAL 10K 0.10% 1/16W
R27	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R31	1-214-848-00	s	METAL 220 1% 1/2W
R32	1-214-852-00	s	METAL 330 1% 1/2W
R34	1-218-367-91	s	METAL 10K 0.10% 1/16W
R35	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R36	1-218-367-91	s	METAL 10K 0.10% 1/16W
R37	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R41	1-214-848-00	s	METAL 220 1% 1/2W
R42	1-214-852-00	s	METAL 330 1% 1/2W
R44	1-218-367-91	s	METAL 10K 0.10% 1/16W
R45	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R46	1-218-367-91	s	METAL 10K 0.10% 1/16W
R47	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R51	1-214-848-00	s	METAL 220 1% 1/2W
R52	1-214-852-00	s	METAL 330 1% 1/2W
R54	1-218-367-91	s	METAL 10K 0.10% 1/16W
R55	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R56	1-218-367-91	s	METAL 10K 0.10% 1/16W
R57	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R61	1-214-848-00	s	METAL 220 1% 1/2W
R62	1-214-852-00	s	METAL 330 1% 1/2W
R64	1-218-367-91	s	METAL 10K 0.10% 1/16W
R65	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R66	1-218-367-91	s	METAL 10K 0.10% 1/16W
R67	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R71	1-214-848-00	s	METAL 220 1% 1/2W
R72	1-214-852-00	s	METAL 330 1% 1/2W
R74	1-218-367-91	s	METAL 10K 0.10% 1/16W
R75	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R76	1-218-367-91	s	METAL 10K 0.10% 1/16W
R77	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R81	1-214-848-00	s	METAL 220 1% 1/2W
R82	1-214-852-00	s	METAL 330 1% 1/2W
R84	1-218-367-91	s	METAL 10K 0.10% 1/16W
R85	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R86	1-218-367-91	s	METAL 10K 0.10% 1/16W
R87	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R91	1-214-848-00	s	METAL 220 1% 1/2W

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(ASW-17 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R92	1-214-852-00	s	METAL 330 1% 1/2W
R94	1-218-367-91	s	METAL 10K 0.10% 1/16W
R95	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R96	1-218-367-91	s	METAL 10K 0.10% 1/16W
R97	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R101	1-214-848-00	s	METAL 220 1% 1/2W
R102	1-214-852-00	s	METAL 330 1% 1/2W
R104	1-218-367-91	s	METAL 10K 0.10% 1/16W
R105	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R106	1-218-367-91	s	METAL 10K 0.10% 1/16W
R107	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R111	1-214-848-00	s	METAL 220 1% 1/2W
R112	1-214-852-00	s	METAL 330 1% 1/2W
R114	1-218-367-91	s	METAL 10K 0.10% 1/16W
R115	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
R116	1-218-367-91	s	METAL 10K 0.10% 1/16W
R117	1-218-366-91	s	METAL 3.3K 0.10% 1/16W
RV1	1-238-740-11	s	RES, ADJ, CERMET 20
RV2	1-238-740-11	s	RES, ADJ, CERMET 20
RV3	1-238-740-11	s	RES, ADJ, CERMET 20
RV4	1-238-740-11	s	RES, ADJ, CERMET 20
RV5	1-238-740-11	s	RES, ADJ, CERMET 20
RV6	1-238-740-11	s	RES, ADJ, CERMET 20
RV7	1-238-740-11	s	RES, ADJ, CERMET 20
RV8	1-238-740-11	s	RES, ADJ, CERMET 20
RV9	1-238-740-11	s	RES, ADJ, CERMET 20
RV10	1-238-740-11	s	RES, ADJ, CERMET 20
RV11	1-238-740-11	s	RES, ADJ, CERMET 20
RV12	1-238-740-11	s	RES, ADJ, CERMET 20
S1	1-552-509-00	s	DIP
S2	1-552-509-00	s	DIP
S3	1-552-509-00	s	DIP
S4	1-552-509-00	s	DIP
S5	1-552-509-00	s	DIP
S6	1-552-509-00	s	DIP
S7	1-552-509-00	s	DIP
S8	1-552-509-00	s	DIP
S9	1-552-509-00	s	DIP
S10	1-552-509-00	s	DIP
S11	1-552-509-00	s	DIP
S12	1-552-509-00	s	DIP

AA-48 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6261-054-A	o	MOUNTED CIRCUIT BOARD, AA-48
C1	1-126-396-11	s	ELECT 47uF 20% 16V
C2	1-126-396-11	s	ELECT 47uF 20% 16V
C3	1-126-396-11	s	ELECT 47uF 20% 16V
C4	1-126-396-11	s	ELECT 47uF 20% 16V
C5	1-126-396-11	s	ELECT 47uF 20% 16V
C6	1-126-396-11	s	ELECT 47uF 20% 16V
C7	1-163-011-11	s	CERAMIC 0.0015uF 10% 50V
C8	1-163-011-11	s	CERAMIC 0.0015uF 10% 50V
C9	1-163-117-00	s	CERAMIC 100PF 5% 50V
C10	1-163-117-00	s	CERAMIC 100PF 5% 50V
CN1	1-568-557-11	s	HEADDER, PIN 5P
CN2	1-565-241-11	o	HEADDER, PIN 8P
D1	8-719-800-76	s	1SS123-T1
D2	8-719-800-76	s	1SS123-T1
IC1	8-759-710-97	s	NJM4565MD
Q1	8-729-216-22	s	2SA812-T1M6
Q2	8-729-216-22	s	2SA812-T1M6
Q3	8-729-100-66	s	2SC1623-T1L6
Q4	8-729-100-66	s	2SC1623-T1L6
Q5	8-729-100-66	s	2SC1623-T1L6
Q6	8-729-216-22	s	2SA812-T1M6
Q7	8-729-106-68	s	2SD1615A-T1GP
Q8	8-729-106-60	s	2SB1115A-T1YP
Q9	8-729-216-22	s	2SA812-T1M6
Q10	8-729-216-22	s	2SA812-T1M6
Q11	8-729-100-66	s	2SC1623-T1L6
Q12	8-729-100-66	s	2SC1623-T1L6
Q13	8-729-100-66	s	2SC1623-T1L6
Q14	8-729-216-22	s	2SA812-T1M6
Q15	8-729-106-68	s	2SD1615A-T1GP
Q16	8-729-106-60	s	2SB1115A-T1YP
R5	1-216-107-00	s	METAL GLAZE 270K 5% 1/10W
R28	1-216-107-00	s	METAL GLAZE 270K 5% 1/10W
RV1	1-228-471-00	s	VAR, CERMET 1K

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

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CPU-68 BOARD
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Ref. No.
or Q'ty  Part No.    SP Description

1pc      A-6267-177-A o MOUNTED CIRCUIT BOARD, CPU-68
3pcs     1-562-579-21 s RECEPTACLE,
1pc      2-182-909-01 o LEVER, PC BOARD
2pcs     7-626-320-11 o PIN, SPRING 3x8

BZ1      1-529-025-00 s BUZZER

C1       1-126-392-11 s ELECT 100uF 20% 6.3V
C2       1-126-392-11 s ELECT 100uF 20% 6.3V
C3       1-126-392-11 s ELECT 100uF 20% 6.3V
C4       1-126-392-11 s ELECT 100uF 20% 6.3V
C5       1-163-038-00 s CERAMIC 0.1   25V

C6       1-135-092-21 s TANTAL 3.3uF 10% 16V
C7       1-163-038-00 s CERAMIC 0.1   25V
C10      1-126-392-11 s ELECT 100uF 20% 6.3V
C11      1-163-227-91 s CERAMIC 33PF 0.5PF 50V
C12      1-163-227-91 s CERAMIC 33PF 0.5PF 50V

C13      1-163-093-00 s CERAMIC 10PF 5% 50V
C16      1-163-137-00 s CERAMIC 680PF 5% 50V
C17      1-163-137-00 s CERAMIC 680PF 5% 50V
C20      1-135-092-21 s TANTAL 3.3uF 10% 16V
C21      1-135-092-21 s TANTAL 3.3uF 10% 16V

C22      1-126-392-11 s ELECT 100uF 20% 6.3V
C23      1-163-038-00 s CERAMIC 0.1   25V
C24      1-163-038-00 s CERAMIC 0.1   25V
C25      1-163-038-00 s CERAMIC 0.1   25V
C26      1-126-392-11 s ELECT 100uF 20% 6.3V

C27      1-163-038-00 s CERAMIC 0.1   25V
C28      1-126-392-11 s ELECT 100uF 20% 6.3V
C29      1-126-392-11 s ELECT 100uF 20% 6.3V
C30      1-163-038-00 s CERAMIC 0.1   25V
C31      1-126-392-11 s ELECT 100uF 20% 6.3V

C32      1-163-105-00 s CERAMIC 33PF   5% 50V
C33      1-163-227-91 s CERAMIC 33PF 5% 50V
C34      1-163-038-00 s CERAMIC 0.1   25V
C35      1-163-038-00 s CERAMIC 0.1   25V
C36      1-163-038-00 s CERAMIC 0.1   25V

C38      1-163-251-11 s CERAMIC 100PF 5% 50V
C39      1-163-038-00 s CERAMIC 0.1 25V
C40      1-163-119-00 s CERAMIC 120PF 5% 50V
C41      1-126-395-11 s ELECT 22uF 20% 16V
C42      1-163-038-00 s CERAMIC 0.1 25V

C45      1-126-392-11 s ELECT 100uF 20% 6.3V
C46      1-163-125-00 s CERAMIC 220PF  5% 50V
C47      1-163-038-00 s CERAMIC 0.1   25V
C48      1-135-092-21 s TANTAL 3.3uF 10% 16V
C49      1-163-038-00 s CERAMIC 0.1   25V

C50      1-163-038-00 s CERAMIC 0.1   25V
C51      1-163-038-00 s CERAMIC 0.1   25V
C52      1-163-104-00 s CERAMIC 30PF 5% 50V
C53      1-163-104-00 s CERAMIC 30PF 5% 50V
C54      1-163-038-00 s CERAMIC 0.1   25V

C55      1-163-038-00 s CERAMIC 0.1   25V
C56      1-163-038-00 s CERAMIC 0.1   25V
C58      1-126-634-11 s ELECT 2200uF 5.5VF
C59      1-125-570-11 s ELEF 5.5VF
C64      1-126-392-11 s ELECT 100uF 20% 6.3V

C65      1-126-392-11 s ELECT 100uF 20% 6.3V
C66      1-163-038-00 s CERAMIC 0.1   25V
C67      1-126-392-11 s ELECT 100uF 20% 6.3V
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(CPU-68 BOARD)

Ref. No.
or Q'ty  Part No.    SP Description

C69      1-126-392-11 s ELECT 100uF 20% 6.3V
C71      1-163-038-00 s CERAMIC 0.1   25V
C72      1-163-038-00 s CERAMIC 0.1   25V
C73      1-163-038-00 s CERAMIC 0.1   25V
C74      1-135-092-21 s TANTAL 3.3uF 10% 16V

C75      1-135-092-21 s TANTAL 3.3uF 10% 16V
C76      1-163-038-00 s CERAMIC 0.1   25V
C77      1-135-092-21 s TANTAL 3.3uF 10% 16V
C78      1-135-092-21 s TANTAL 3.3uF 10% 16V
C79      1-163-141-00 s CERAMIC 0.001uF 5% 50V

C80      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C81      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C82      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C83      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C84      1-163-017-91 o CERAMIC 0.0047uF 10% 50V

C85      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C86      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C87      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C88      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C89      1-163-017-91 o CERAMIC 0.0047uF 10% 50V

C90      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C91      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C92      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C93      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C94      1-163-017-91 o CERAMIC 0.0047uF 10% 50V

C95      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C96      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C97      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C98      1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C99      1-163-017-91 o CERAMIC 0.0047uF 10% 50V

C100     1-163-017-91 o CERAMIC 0.0047uF 10% 50V
C102     1-161-694-00 s CERAMIC 0.022PF 30% 25V

CN1M     1-566-986-11 o CONNECTOR, MULTI 100P
CN2M     1-566-986-11 o CONNECTOR, MULTI 100P
CN3M     1-564-359-00 o HEADER, CONNECTOR 20P

D4       8-719-100-03 s 1S2835
D5       8-719-100-03 s 1S2835
D6       8-719-100-03 s 1S2835
D7       8-719-100-03 s 1S2835
D8       8-719-100-03 s 1S2835

D9       8-719-100-03 s 1S2835
D10      8-719-100-03 s 1S2835
D11      8-719-100-03 s 1S2835
D13      8-719-100-03 s 1S2835
D14      8-719-100-03 s 1S2835

D15      8-719-400-35 s LN35BP
D16      8-719-400-35 s LN35BP
D17      8-719-100-03 s 1S2835
D18      8-719-100-03 s 1S2835
D19      8-719-100-03 s 1S2835

D20      8-719-100-03 s 1S2835
D21      8-719-100-03 s 1S2835
D22      8-719-100-03 s 1S2835
D23      8-719-100-03 s 1S2835
D24      8-719-100-03 s 1S2835

D25      8-719-100-03 s 1S2835
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Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
FL1	1-236-129-11	s	ENCAPSULATED COMPONENT
FL2	1-236-129-11	s	ENCAPSULATED COMPONENT
FL3	1-236-129-11	s	ENCAPSULATED COMPONENT
FL4	1-236-129-11	s	ENCAPSULATED COMPONENT
FL5	1-236-129-11	s	ENCAPSULATED COMPONENT
FL6	1-236-129-11	s	ENCAPSULATED COMPONENT
FL7	1-236-129-11	s	ENCAPSULATED COMPONENT
FL8	1-236-129-11	s	ENCAPSULATED COMPONENT
FL9	1-236-129-11	s	ENCAPSULATED COMPONENT
FL10	1-236-129-11	s	ENCAPSULATED COMPONENT
FL11	1-236-129-11	s	ENCAPSULATED COMPONENT
FL12	1-236-129-11	s	ENCAPSULATED COMPONENT
FL13	1-236-129-11	s	ENCAPSULATED COMPONENT
FL14	1-236-129-11	s	ENCAPSULATED COMPONENT
FL15	1-236-129-11	s	ENCAPSULATED COMPONENT
ICA3	8-759-908-35	s	TL7705CP-B
ICB1	8-759-926-32	s	AM26LS32PC
ICB2	8-759-927-29	s	SN74HCU04NS
ICB3	8-759-113-74	s	UPD72001C
ICB4	8-759-204-94	s	TC74HC00F
ICB5	8-759-707-81	s	27C256A-BVS1212-V102
ICB6	8-752-328-10	s	CXK5864BP-10L
ICB7	8-759-926-77	s	SN74HC541NS
ICC1	8-759-926-30	s	AM26LS30PC
ICC2	8-759-926-74	s	SN74HC393NS
ICC4	8-759-926-12	s	SN74HC139NS
ICC7	8-759-926-49	s	SN74HC245NS
ICD1	8-759-926-30	s	AM26LS30PC
ICD2	8-759-204-96	s	TC74HC04F
ICD6	8-759-926-11	s	SN74HC138NS
ICD7	8-759-204-94	s	TC74HC00F
ICE4	8-759-143-98	s	UPD70320L-8
ICE6	8-759-926-11	s	SN74HC138NS
ICE7	8-759-927-46	s	SN74HC00NS
ICF2	8-759-008-52	s	TC74HC123AF
ICF3	8-759-008-52	s	TC74HC123AF
ICF7	8-759-008-52	s	TC74HC123AF
ICG2	8-759-987-27	s	LM1881M
ICH2	8-759-938-68	s	CXD1095Q
ICH5	8-759-938-68	s	CXD1095Q
ICH6	8-759-938-68	s	CXD1095Q
JW1	1-564-948-21	o	PIN, CONNECTOR 3P
JW2	1-564-948-21	o	PIN, CONNECTOR 3P
JW3	1-564-948-21	o	PIN, CONNECTOR 3P
ND1	8-719-901-68	s	GL-6R202
Q5	8-729-107-31	s	2SC3545-T1T44
Q6	8-729-216-22	s	2SA812-T1M6
Q7	8-729-113-23	s	FA1L4L-T1L30
Q8	8-729-113-23	s	FA1L4L-T1L30
Q9	8-729-113-23	s	FA1L4L-T1L30
Q10	8-729-113-23	s	FA1L4L-T1L30
Q11	8-729-113-23	s	FA1L4L-T1L30
Q12	8-729-113-23	s	FA1L4L-T1L30
Q13	8-729-113-23	s	FA1L4L-T1L30
Q14	8-729-113-23	s	FA1L4L-T1L30

Ref. No. or Q'ty	Part No.	SP	Description
Q15	8-729-113-23	s	FA1L4L-T1L30
Q16	8-729-113-23	s	FA1L4L-T1L30
Q17	8-729-113-23	s	FA1L4L-T1L30
Q18	8-729-113-23	s	FA1L4L-T1L30
Q19	8-729-113-23	s	FA1L4L-T1L30
Q20	8-729-113-23	s	FA1L4L-T1L30
Q21	8-729-901-13	s	DTA144WK-T-96
Q22	8-729-901-13	s	DTA144WK-T-96
Q23	8-729-901-13	s	DTA144WK-T-96
Q24	8-729-901-13	s	DTA144WK-T-96
Q25	8-729-901-13	s	DTA144WK-T-96
Q26	8-729-901-13	s	DTA144WK-T-96
Q27	8-729-901-13	s	DTA144WK-T-96
Q28	8-729-901-13	s	DTA144WK-T-96
Q29	8-729-901-13	s	DTA144WK-T-96
Q30	8-729-901-13	s	DTA144WK-T-96
Q31	8-729-901-13	s	DTA144WK-T-96
Q32	8-729-901-13	s	DTA144WK-T-96
Q33	8-729-901-13	s	DTA144WK-T-96
Q34	8-729-901-13	s	DTA144WK-T-96
Q35	8-729-107-31	s	2SC3545-T1T44
R10	1-216-121-00	s	METAL 1M 5% 1/10W
R22	1-216-105-00	s	METAL 220K 5% 1/10W
R24	1-216-109-00	s	METAL 330K 5% 1/10W
R25	1-216-105-00	s	METAL 220K 5% 1/10W
R28	1-216-615-11	s	METAL 33 0.50% 1/10W
R29	1-216-117-00	s	METAL 680K 5% 1/10W
R84	1-216-295-00	s	METAL 0 5% 1/10W
R85	1-216-295-00	s	METAL 0 5% 1/10W
R146	1-216-615-11	s	METAL 33 0.50% 1/10W
R148	1-216-121-00	s	METAL 1M 5% 1/10W
R216	1-216-295-00	s	METAL 0 5% 1/10W
S1	1-571-967-11	s	SWITCH, DIP (PIANO TYPE)
S2	1-554-027-00	s	ROTARY
S3	1-554-027-00	s	ROTARY
S4	1-570-623-11	s	DIP
S5	1-570-623-11	s	DIP
S6	1-554-080-00	s	SWITCH, ROTARY
S7	1-554-080-00	s	SWITCH, ROTARY
S8	1-554-080-00	s	SWITCH, ROTARY
S9	1-554-080-00	s	SWITCH, ROTARY
S11	1-552-539-00	s	KEY BOARD
X1	1-567-133-00	s	OSCILLATOR, CERAMIC 4.91MHz
X2	1-567-927-11	s	OSCILLATOR, CERAMIC 16.00MHz

Parts that are not listed in the "reference number order
list" are shown in the "General Purpose Electrical Parts
List".

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TR-56 BOARD
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Ref. No.
or Q'ty  Part No.    SP Description

1pc      A-6266-175-A o MOUNTED CIRCUIT BOARD, TR-56

CN1M     1-506-471-11 s 6P
CN2M     1-506-471-11 s 6P
CN3M     1-506-471-11 s 6P
CN4M     1-506-471-11 s 6P
CN5M     1-506-471-11 s 6P

CN6M     1-506-471-11 s 6P
CN7M     1-506-471-11 s 6P
CN8M     1-506-471-11 s 6P
CN9M     1-506-471-11 s 6P
CN10M    1-506-471-11 s 6P

CN11M    1-506-471-11 s 6P
CN12M    1-506-471-11 s 6P
CN13M    1-506-471-11 s 6P

R1       1-215-377-00 s METAL 15 1% 1/6W
R2       1-215-377-00 s METAL 15 1% 1/6W
R3       1-215-377-00 s METAL 15 1% 1/6W
R4       1-215-377-00 s METAL 15 1% 1/6W
R5       1-215-377-00 s METAL 15 1% 1/6W

R6       1-215-377-00 s METAL 15 1% 1/6W
R7       1-215-377-00 s METAL 15 1% 1/6W
R8       1-215-377-00 s METAL 15 1% 1/6W
R9       1-215-377-00 s METAL 15 1% 1/6W
R10      1-215-377-00 s METAL 15 1% 1/6W

R11      1-215-377-00 s METAL 15 1% 1/6W
R12      1-215-377-00 s METAL 15 1% 1/6W
R13      1-215-377-00 s METAL 15 1% 1/6W

S1       1-516-278-00 s SLIDE SWITCH
S2       1-516-278-00 s SLIDE SWITCH
S3       1-516-278-00 s SLIDE SWITCH
S4       1-516-278-00 s SLIDE SWITCH
S5       1-516-278-00 s SLIDE SWITCH

S6       1-516-278-00 s SLIDE SWITCH
S7       1-516-278-00 s SLIDE SWITCH
S8       1-516-278-00 s SLIDE SWITCH
S9       1-516-278-00 s SLIDE SWITCH
S10      1-516-278-00 s SLIDE SWITCH

S11      1-516-278-00 s SLIDE SWITCH
S12      1-516-278-00 s SLIDE SWITCH
S13      1-516-278-00 s SLIDE SWITCH

T1       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T2       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T3       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T4       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T5       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT

T6       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T7       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T8       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T9       1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T10      1-427-603-11 s TRANSFORMER, AUDIO OUTPUT

T11      1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T12      1-427-603-11 s TRANSFORMER, AUDIO OUTPUT
T13      1-427-603-11 s TRANSFORMER, AUDIO OUTPUT

TH1      1-807-269-11 s THERMISTOR
TH2      1-807-269-11 s THERMISTOR
TH3      1-807-269-11 s THERMISTOR
TH4      1-807-269-11 s THERMISTOR
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(TR-56 BOARD)

Ref. No.
or Q'ty  Part No.    SP Description

TH5      1-807-269-11 s THERMISTOR
TH6      1-807-269-11 s THERMISTOR
TH7      1-807-269-11 s THERMISTOR
TH8      1-807-269-11 s THERMISTOR
TH9      1-807-269-11 s THERMISTOR

TH10     1-807-269-11 s THERMISTOR
TH11     1-807-269-11 s THERMISTOR
TH12     1-807-269-11 s THERMISTOR
TH13     1-807-269-11 s THERMISTOR
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Parts that are not listed in the "reference number order
list" are shown in the "General Purpose Electrical Parts
List".

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MB-262 BOARD
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Ref. No.
or Q'ty  Part No.     SP Description

1pc      A-6266-174-A  o MOUNTED CIRCUIT BOARD, MB-262
1pc      2-139-025-01  o BRACKET, MB
12pcs    7-622-207-05  s N 2.6, TYPE 2
1pc      7-628-254-20  s SCREW +PS 2.6X8
1pc      7-682-903-01  s SCREW +PWH 3X5

C1       1-126-101-11  s ELECT 100 20% 16V

CN1F     1-566-985-11  o RECEPTACLE,MULTI CONNECTOR100P
CN2F     1-566-985-11  o RECEPTACLE,MULTI CONNECTOR100P
CN3F     1-566-985-11  o RECEPTACLE,MULTI CONNECTOR100P
CN4F     1-566-985-11  o RECEPTACLE,MULTI CONNECTOR100P
CN5F     1-566-985-11  o RECEPTACLE,MULTI CONNECTOR100P

CN6F     1-566-985-11  o RECEPTACLE,MULTI CONNECTOR100P
CN7M     1-564-921-11  o PIN, CONNECTOR 7P
CN8M     1-564-002-31  s 3P
CN9M     1-564-001-11  o 2P
CN10M    1-506-469-11  s 4P

CN11M    1-506-479-11  o PIN, CONNECTOR 14P
CN12M    1-506-477-31  o PIN, CONNECTOR 12P
CN13M    1-506-474-11  o PIN, CONNECTOR 9P
CN15M    1-506-477-11  o PIN, CONNECTOR 12P
CN16M    1-506-477-11  o PIN, CONNECTOR 12P

CN17M    1-506-477-11  o PIN, CONNECTOR 12P
CN18M    1-506-477-11  o PIN, CONNECTOR 12P
CN19M    1-506-477-11  o PIN, CONNECTOR 12P
CN20M    1-506-477-11  o PIN, CONNECTOR 12P
CN21M    1-506-471-11  s 6P

CN22M    1-506-471-11  s 6P
CN23M    1-506-471-11  s 6P
CN24M    1-506-471-11  s 6P
CN25M    1-506-471-11  s 6P
CN26M    1-506-471-11  s 6P

CN27M    1-506-471-11  s 6P
CN28M    1-506-471-11  s 6P
CN29M    1-506-471-11  s 6P
CN30M    1-506-471-11  s 6P
CN31M    1-506-471-11  s 6P

CN32M    1-506-471-11  s 6P
CN33M    1-506-471-11  s 6P
CN34M    1-506-471-11  s 6P
CN35M    1-506-468-11  s 3P

FL1      1-421-773-11  s FILTER, NOISE REMOVAL
FL2      1-421-773-11  s FILTER, NOISE REMOVAL
FL3      1-421-773-11  s FILTER, NOISE REMOVAL

R1       1-215-861-00  s METAL 47 5% 1W
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LE-76 BOARD
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Ref. No.
or Q'ty  Part No.     SP Description

1pc      1-631-489-11  o PC BOARD, LE-76
4pcs     3-674-390-00  o HOLDER (B), LED

CN1      1-506-468-11  s 3P

D1       8-719-812-32  s TLY123
D2       8-719-812-32  s TLY123
D3       8-719-812-32  s TLY123
D4       8-719-812-32  s TLY123

R1       1-249-408-11  s CARBON 180 5% 1/4W
R2       1-249-408-11  s CARBON 180 5% 1/4W
R3       1-249-408-11  s CARBON 180 5% 1/4W
R4       1-249-408-11  s CARBON 180 5% 1/4W
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Parts that are not listed in the "reference number order
list" are shown in the "General Purpose Electrical Parts
List".

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FRAME
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Ref. No.
or Q'ty   Part No.    SP Description

1pc       1-944-065-11 o HARNESS (A102)
                         (20P/20P/20P)

(to TR-56 BOARD)

CN1L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN2L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN3L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN4L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN5L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN6L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN7L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN8L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN9L      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN10L     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN11L     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN12L     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN13L     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN1R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN2R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN3R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN4R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN5R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN6R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN7R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN8R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN9R      1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT
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(FRAME)

Ref. No.
or Q'ty   Part No.    SP Description

CN10R     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN11R     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN12R     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN13R     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

(to MB-262 BOARD)

CN7M      1-562-822-11 o HOUSING, 7P
          1-560-764-21 o CONTACT

CN8M      1-562-148-11 o HOUSING, 3P
          1-564-026-11 o CONTACT

CN10M     1-562-149-11 o HOUSING, 4P
          1-563-088-11 o CONTACT

CN11M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN12M     1-562-185-11 o HOUSING, 14P
          1-563-814-11 o CONTACT

CN13M     1-562-154-11 o HOUSING, 9P
          1-563-088-11 o CONTACT

CN15M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN16M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN17M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN18M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN19M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN20M     1-562-157-11 o HOUSING, 12P
          1-563-088-11 o CONTACT

CN21M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN22M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN23M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN24M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN25M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN26M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT

CN27M     1-562-151-11 o HOUSING, 6P
          1-563-088-11 o CONTACT
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Parts that are not listed in the "reference number order
list" are shown in the "General Purpose Electrical Parts
List".

(FRAME)

Ref. No.
or Q'ty Part No.   SP Description

CN28M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN29M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN30M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN31M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN32M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN33M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN34M   1-562-151-11 o HOUSING, 6P
         1-563-088-11 o CONTACT

CN101   ⚠1-560-222-11 s 3P INLET

S101   ⚠1-570-384-11 s SWITCH, SEESAW (AC POWER)

(to EDD-110)
        ⚠1-562-818-11 o HOUSING, 3P
        ⚠1-560-764-21 o CONTACT

PACKIN BOARD

Ref. No.
or Q'ty Part No.   SP Description

        ⚠1-534-754-15 s CORD, POWER (for J)
        ⚠1-551-812-11 s CORD, POWER (for UC)
        ⚠1-556-760-11 s CORD, POWER (3 CORE) (for EK)
         1-564-997-11 o PLUG, BNC (WITH RESISTOR)
         1-943-888-12 o HARNESS (UNIT)

         3-668-459-00 s SCREW, CONNECTOR
         2-990-242-01 o HOLDER (B), PLUG

Parts that are not listed in the "reference number order
list" are shown in the "General Purpose Electrical Parts
List".

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SW-354  BOARD
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Ref. No.
or Q'ty  Part No.    SP Description

1pc      A-6267-176-A o MOUNTED CIRCUIT BOARD, SW-354
1pc      2-130-288-01 o SUPPORT
1pc      4-612-636-01 s SCREW, CONNECTOR FITTING

C1       1-124-589-11 s ELECT 47 20% 16V
C2       1-124-589-11 s ELECT 47 20% 16V

CN1      1-568-675-11 o CONNECTOR, D-SUB 25P

D1       8-719-911-19 s 1SS119
D2       8-719-911-19 s 1SS119
D3       8-719-911-19 s 1SS119
D4       8-719-911-19 s 1SS119
D5       8-719-911-19 s 1SS119

D6       8-719-911-19 s 1SS119
D7       8-719-911-19 s 1SS119
D8       8-719-911-19 s 1SS119
D9       8-719-911-19 s 1SS119
D10      8-719-911-19 s 1SS119

D11      8-719-911-19 s 1SS119
D12      8-719-911-19 s 1SS119
D13      8-719-911-19 s 1SS119
D14      8-719-911-19 s 1SS119
D15      8-719-911-19 s 1SS119

D16      8-719-911-19 s 1SS119
D17      8-719-911-19 s 1SS119
D18      8-719-911-19 s 1SS119

IC1      8-759-921-85 s SN74HC4515NT
IC2      8-759-921-85 s SN74HC4515NT

Q1       8-729-119-78 s 2SC2785-F

R1       1-215-405-00 s METAL 220 1% 1/6W
R2       1-215-409-00 s METAL 330 1% 1/6W
R3       1-215-373-31 s METAL 10 1% 1/6W
R4       1-215-373-31 s METAL 10 1% 1/6W
R5       1-215-453-00 s METAL 22K 1% 1/6W

R6       1-215-453-00 s METAL 22K 1% 1/6W
R7       1-215-469-00 s METAL 100K 1% 1/6W
R8       1-215-469-00 s METAL 100K 1% 1/6W
R9       1-215-469-00 s METAL 100K 1% 1/6W
R10      1-215-469-00 s METAL 100K 1% 1/6W

R11      1-215-469-00 s METAL 100K 1% 1/6W
R12      1-215-469-00 s METAL 100K 1% 1/6W
R13      1-215-469-00 s METAL 100K 1% 1/6W
R14      1-215-469-00 s METAL 100K 1% 1/6W

S1       1-571-966-12 s SWITCH, PUSH
S2       1-571-966-12 s SWITCH, PUSH
S3       1-571-966-12 s SWITCH, PUSH
S4       1-571-966-12 s SWITCH, PUSH
S5       1-571-966-12 s SWITCH, PUSH

S6       1-571-966-12 s SWITCH, PUSH
S7       1-571-966-12 s SWITCH, PUSH
S8       1-571-966-12 s SWITCH, PUSH
S9       1-571-966-12 s SWITCH, PUSH
S10      1-571-966-12 s SWITCH, PUSH

S11      1-571-966-12 s SWITCH, PUSH
S12      1-571-966-12 s SWITCH, PUSH
S13      1-572-001-11 s SWITCH, PUSH
S14      1-572-001-21 s SWITCH, PUSH
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list" are shown in the "General Purpose Electrical Part
List".